THE MARKS OF AN EDUCATED MAN

ALBERT EDWARD WIGGAM

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THE MARKS OF AN EDUCATED MAN

By

ALBERT EDWARD WIGGAM, D. Sc.

Author of

The New Decalogue of Science
The Fruit of the Family Tree
The Next Age of Man
Exploring Your Mind

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To

ROBERT DOUGLAS TAYLOR

Friend of a lifetime;
whose ambition has been to be
"just a good school-teacher";
who has eminently succeeded;
who is, therefore, in the best sense,
with his "perfect aristocracy and complete democracy,"
a genuinely educated man.

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PREFACE

This book is not an attempt to write an essay on the philosophy of education or on educational psychology or experimental education. The advances in the science and philosophy of education during the past generation are among the most heartening signs of genuine human progress. But my hope here is simply to make education appear worth while, attractive and attainable to the humblest man. I am convinced that, without any increase in our natural abilities we could all be much better educated than we are and consequently much happier and more useful. I wish I might make education seem, as Matthew Arnold said of culture, "a disinterested endeavor after perfection,"—an endeavor that is not a "having" or a "being" but an eternal "becoming," an eternal becoming something finer, better, happier and more useful; an endeavor that never ceases, an endeavor that loses all its power if it fail for a moment to be disinterested, that loses all its beauty if it be for a less ideal than perfection.

And I hope I shall convince the reader that perfection as some state of unchanging bliss is not only impossible but undesirable, but that, by man's very nature, the going toward it, the striving for it, the adventure, the excitement, the romance of the search is the very perfection that he seeks. The Holy Grail is unattainable and would bring no joy if it were found. To become perfectly educated, therefore, is impossible, but to try to become educated *is* education—as nearly perfect education as one can have. The experimenters have of course discovered that some ways of striving produce much greater results in learning, achievement and power than other ways; but after all, *educational* *effort,* the inner striving "to comprehend the beauty and wonder of the world," and to enrich this beauty and wonder with the flood and glow and passion of your own personality—this is the thing to which men have given the magic name of education.

No one can write such a book without acknowledging his debt on every page to such great masters as William James, Stanley Hall and Edward L. Thorndike; and included herein is also the conscious and unconscious inspiration of so many other of our great present-day psychologists that it would require pages to mention them. In Chapters VII and VIII I am obviously indebted to Dr. David Mitchell, consulting psychologist, and in Chapters XX and XXI to Dean Carl Emil Seashore of the Graduate School of Education of Iowa University.

As in all my books, I am deeply indebted to Mrs. Wiggam for her extensive readings in the massive literature of education and her constant assistance. My secretary, Mr. H. J. Lee, should be mentioned for his patient labor far into some of these spring nights, editing and correcting the manuscript.

Thanks are due to *Good Housekeeping, The American Magazine, World's Work* and *The Scientific Monthly* for permission to reprint or rewrite the gist of articles that have appeared in their pages. Some of these articles have brought me thousands of letters from all parts of the world, and I take this opportunity of extending my deep appreciation to those kindly readers.

ALBERT EDWARD WIGGAM

New York,
May 31, 1930.

THE MARKS OF AN EDUCATED MAN

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CHAPTER I

He Cultivates the Open Mind

Whenever I get to thinking about the marks of an educated man, my mind always goes back to an old working man friend, Uncle Noah Smith.

Uncle Noah was a model-maker in the old Wagner plow factory at Vernon, Indiana,—the place I always feel I am *away from,* although I have lived in many parts of the United States; and the place you feel you are away from, no matter where you may happen to be, the place that always rests your mind and heart to think about amid the world's grime and turmoil, the place whose memories always come to you with unspoiled sweetness and amid whose magical dreams you plan some day to go back and live again—that is the place that to you will always be *home.*

Uncle Noah retired after the plow factory moved to Indianapolis in the autumn of 1901. In those days I used to make long lecture trips and when I would come home Uncle Noah would always come over to see me; and when the weather was fine, we often sat out under the old apple tree in the back yard and talked—as you know men will when the air is quiet—of science, love and religion, of money, destiny and God. The old apple tree went down in the big cyclone that struck Vernon at twenty minutes to six o'clock on the evening of May 26, 1917; but the memory of my talks with Uncle Noah will always remain.

I knew more than Uncle Noah did. He was not a learned man, as the notion goes. I had read more and traveled more and seen more; but I doubt that I had thought or felt more. I doubt that my attitudes of mind, which are the main things in a man's education, were any finer, any richer with the flavors of an untarnished imagination, or any more discriminating between the true and the false, the tawdry and genuine, the trappings and the realities of life, than were Uncle Noah's. He had made the first models for the old Buckeye mowing-machine when it was first invented back in the 'seventies. He was skilled in his craft, and as a matter of course that is the first thing a man must be if he is ever to become educated.

But a man does not get all of his education out of his work. If he did or could, the problem of each man to achieve his own education would be much simpler than it is now or ever will be. With vast numbers of men, whose sole work is to screw nut 979 and unscrew nut 841, day after day and year after year, education would thus be an automatic process. A man could drop a nickel or a dollar into a slot and get out just the amount of education he had paid for. A great many ambitious parents who send their boys to college seem to imagine that education is that kind of process. But many of them, after dropping five or twenty-five thousand dollars into a collegiate slot, when they get the boy or girl back out of the machine, are both amazed and disillusioned at the meager improvement achieved.

But education is for the whole of life, and work is not the whole of life. In this machine age, when man has applied science to invention and industry and is only beginning to apply it to himself, when society is organized for profit instead of for happiness, and when the "economic man" is probably more nearly realized than at any period in the world's history, it is unfortunately true for enormous numbers of people that work has to be nearly all of life. But a man who has achieved the slightest leisure from the sheer struggle for existence and has no wish to get anything out of life except his work, will never know the nourishing freedom of true education. This is because life is not only work, but is also play and suffering, beauty and pain, joy and sorrow, sunshine and rain, disgrace and glory, darkness, storm and terror, as well as sweetness, peace and light.

No form of work therefore, however rich and varied, can furnish the means for satisfying the entire gamut of even the humblest man's possibilities for entering into all the adventures and exaltations of education. In fact, many a man who regards himself as educated, just because he works eighteen hours a day upon some problem of art or science, would find he could achieve a new mastery over his own problem if he should, now and then at least, catch his breath and remember with Herbert Spencer that "work and learning were made for life, and not life for learning and work." Provided a man has attained the slightest economic freedom, he *must* discover that work and learning were made for *life,* or else he will find, as he approaches the sunset, that he has missed much of the great adventures of education. And just to the degree you have missed education, you have missed life itself.

So, as I was saying, Uncle Noah was not a man of much learning and had worked nearly all his life at one thing, whereas, compared to him, I had a great deal of learning of a sort, and had worked at many things. In contrast to Uncle Noah's limited worldly experiences, I had had rather wide contacts with the world. I had traveled perhaps a quarter of a million miles as a platform lecturer; I had started to college from the farm at the age of fourteen—something fairly easy in those days when the college course was not much above the present-day third year in high school; I had worked in the chemical laboratory of a sugar factory, had been for a time a gold and silver assayer, superintendent of a mining camp, a police reporter, a traveling salesman, and once I had run a bankrupt hotel and made it pay; I had gone through two pretty long sieges with tuberculosis which had sadly broken up my academic career; I had been an editorialist on a metropolitan daily and had knocked about and been knocked about at numerous other things.

I mention these varied items of experience merely to say that a man may pass through all of them and many more without ever coming even in sight of an education. Some of these experiences help, some do not. I had had an enormous number of them and Uncle Noah had had very few; and yet, as I sit down this afternoon, the seventh day of March, 1930, to dictate a book on some phases of education that have interested me, and as I look back through the mist and mystery of the years since Uncle Noah went to his reward, which I am sure was a great one, I find myself honestly, deeply, sincerely wondering whether I am or ever will be as well educated a man as was my old friend Uncle Noah Smith.

My reason for this feeling is that it has always seemed to me Uncle Noah possessed in an unusual degree a number of the great marks—and those the most essential ones—that my years of knocking against all sorts and conditions of men and all sorts and conditions of educational theories have led me to believe are the mental badges, the habits and attitudes of mind and spirit that distinguish a man of genuine education.

Above all, Uncle Noah had one characteristic that had grown to be so much a second nature to him—

although he had achieved it with effort and humility of spirit—that he did not realize he possessed in it the supreme thing that is preliminary to all education. It is the thing that brings us straight to the one habit of mind, more fundamental, more outstanding, more serviceable than any other in achieving education. Without this very simple but very basic way of looking at the world and at people and at our own experience, education is impossible. True, we see many people who make a great stir in the world, persons of ability, persons who exercise a very wide and often baneful influence, in whom the absence of this habit is the most conspicuous thing about them. An enormous part of the world's misery and mistakes have been directly brought about by people who possessed great mental abilities but who had never achieved this way of using them. It was because Uncle Noah had this habit so deeply rooted in every word he spoke and every thought he expressed that I have always thought of him as having been, in this basic sense, a truly educated man. It is an achievement possible to the humblest man, and without it the greatest man becomes as sounding brass and a tinkling cymbal. Indeed, most of the sounding brass voices that have misled men in all ages and which, when they get a hearing, mislead them just as much to-day as ever, are voices that have never become informed with this habit of arriving at the truth or falsity of their utterances. It is the first of all the marks of an educated man and it is this:

He keeps his mind open on every question until the evidence is all in.

Uncle Noah was very strong on this point. He used often to say to me, "It does not matter greatly what a man knows or how much he knows; the thing that separates an educated man from an uneducated man more than anything else is *how he learned what he does know.*''

In this remark Uncle Noah struck at the roots of every man's problem with reference to his own education. Moreover he voiced the essence of the problem as to how humanity has ever advanced in its intellectual conquests and how it may hope to go on toward the achievement of a free and intelligent society. We shall see this more clearly if we reflect on what school and college does to some people and fails to do to others. It has been rightly said that about half of what a man learns in school and college is of no use, and that he forgets most of the other half. However, this is not serious, provided he acquired in school and college *right habits of learning.* If a man learns either in school or in college or, as Uncle Noah did, from work and life, to keep his mind open to new facts, even though some new fact might, so to speak, jab some of his personal opinions in the ''proud flesh''; if he has got over being afraid to change his mind, no matter what it may cost his personal pride; if he has got so he is not afraid to think on all sides of every question; if he is not afraid to review carefully and without prejudice the evidence against his own opinions; above everything else, if he has learned to hold back his judgment and *not to come to any conclusion at all* until the evidence is all in, or, at least, sufficient evidence to make a rational conclusion possible, then that man will likely wake up some fine morning and find he is one of the most trusted men in his community, and, it may be, one of the great human spirits of his day and generation.

CHAPTER II

HE COMBINES THE THREE GREAT HERITAGES OF EDUCATION

THIS mark of an educated mind—open-mindedness—could easily take us out over the whole history of science and the progress of rational thought, because it is the very essence of the scientific way of looking at the world. It is true that men have lived significant lives without science, but they can never understand the universe in which they live in any other way. It has not been war or natural resources, or changes in trade routes, or differences in economic or political organization that have made men advance or recede, so much as mere changes in mental habits. Only when the method of waiting upon evidence before reaching conclusions, the method of open-minded investigation of the facts of nature, became a mental habit with a number of men, was what we call science born. And the day science was born was the day when humanity started upon *the only kind of progress that could possibly be cumulative, self-perpetuating and, so to speak, self-progressive.*

I do not believe any one can understand the miracle of modern life without understanding that not superior mental ability but merely a difference in mental habits has made it all possible. And I want to point out again and again throughout this book that these mental habits can be achieved by every one and that they constitute the essence of education. I wonder, indeed, if you realize that in order to have electric lights and steam-engines and washing-powders and radios and antitoxins and automobiles and pure milk and airplanes that a few unique and wonderful men called scientists had to introduce a *new kind of life* into the world. It was not a sudden augmentation of mental ability but a *change of mental habits* that made all science possible. These marvelous inventions and discoveries are probably due not to our having more ingenious minds than men of former ages, even the men of the Stone Age, but merely to the fact that we use our minds in a different way; to the fact that at least a few men have achieved a new sort of spiritual existence, a habit of deciding things only on evidence. It is this, far more than all else combined, I think, that has made you and me partners in the most brilliant and interesting civilization of all history.

I think we may profitably pause here a moment in order to reflect how dramatic as well as practically interesting it would be if we could only know where and how this habit of mind began; because, while the average man does not realize it, it is the most extraordinary occurrence in the whole history of mankind. We know a great deal as to where it began but very little as to how. Men had been going along for ages, living, fighting, loving, dying, building civilizations and tearing them down, without ever developing either the interest or the will that is necessary for this mental habit, when, rather suddenly, it laid hold of a number of men and not only began to produce astonishing practical results, but revolutionized the whole outlook of men upon the nature of the universe and the meaning of life itself.

The most masterly account of the beginnings of this new habit in the world—this new way of using the mind—has been recently written by the man who, I think, knows more about the history of science than any one else, namely, Dr. George Sarton, editor of the intellectualist magazine, *Isis,* and Associate in the

History of Science of the Carnegie Institution of Washington. It is a piece of good fortune for both education and science that Doctor Sarton has planned a majestic history of all science, a work that will run into many volumes and require the labors of a generation.

The first volume of nearly one thousand pages, published in 1927, brings the history of science from the time of Homer down to the period of Omar Khayyam, and in the beautiful and profound introductory chapter of this noble undertaking Doctor Sarton defines science as "systematized positive knowledge."

It is important to keep this definition in our minds if we are ever to understand what education in the modern sense really means. To be able to systematize knowledge into positive constructive thought constitutes the difference between a man of large information who never gets anywhere with what he knows, and the man who can combine his knowledge into a logical synthetic whole and who does get somewhere. It is the difference between passive items of information and creative knowledge. It was just when this habit of synthetic constructive thinking about nature entered the world that there occurred what will always be known as the "Greek miracle." It is just as much a miracle when it happens to-day in the mind of an individual man as it was in Greece six centuries before Christ, because it constitutes one of the great differences between being educated and uneducated.

In a widely sweeping and penetrating passage, in which the italics are my own, Doctor Sarton eloquently sums up for us the way these efforts to achieve systematized positive knowledge were crystallized by the Greeks with sufficient breadth, continuity and practical fruitfulness to be properly termed a genuine scientific discipline:

One has often spoken of the "Greek miracle" with reference to the sudden bloom of a wonderful literature and the unequaled creations of their sculptors and architects, but *the development of Greek science was not a bit less marvelous.* Of course, we realize now that it was not entirely spontaneous, but rather the fructification of a long evolution of which we find many vestiges in Mesopotamia, in Egypt, and in the Ægean world. Yet what a distance between those crude empirical efforts and the clear-cut, pregnant dicta of the early Greek philosophers and mathematicians! If science is more than an accumulation of facts; if it is not simply positive knowledge, but systematized positive knowledge; if it is not simply unguided analysis and haphazard empiricism, but synthesis; if it is not simply a passive recording, but a constructive activity; then, undoubtedly, Hellas was its cradle. The progress of our own studies makes us see more and more clearly how much they borrowed from earlier peoples, but by way of contrast this enhances our opinion of their originality and fortifies our admiration of their scientific genius. It becomes increasingly easy to tell where they found their rough material, but this hardly helps us to understand *what enabled them to assume a scientific attitude* and to give the earliest conspicuous examples of scientific investigations which were at once *deliberate and disinterested.* How did it come to pass that some of those early Greek philosophers managed to distinguish scientific issues and to discuss them with a clarity, directness, and freedom from prejudice which remained almost unequaled until modern times? Where did they get that *genius for striking the nail on the head?* We try to explain this by referring to racial qualities, to geographic and meteorological considerations, to politics and religion, but in reality our explanations do not explain, and it is that very failure which we express when we speak of the Greek miracle.*

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*From *Introduction to the History of Science,* by Dr. George Sarton; used by permission of the publishers, The Williams & Wilkins Company.

Of course a great deal had been discovered about nature prior to the Greeks, and as our archeologists unearth more primitive civilizations, we find more and more where the Greeks got their "rough material" for a scientific approach to nature. But as Doctor Sarton points out, none of this seems to explain where the Greeks got their attitude of mind and their analytical method of thinking about natural phenomena, their marvelous capacity for hitting the nail on the head. It is this and this alone that makes science or that gives us the materials for a critical philosophy of man and the universe. The more thoughtful men of every age have, of course, pondered upon the facts of nature and have sought to wrest a satisfying explanation of these facts from their observations. But it was first in Greece that this effort was communicated widely from man to man and from generation to generation as a continuous mental discipline and an unbroken method of research by which one set of facts could be compared with another set of facts, and some sort of logical picture of nature as a whole be achieved. It was in Greece that this effort of men to understand the world they lived in took on sufficient vitality, depth and continuity to permit it to be called science.

Moreover, these men approached nature with such an unflinching courage that even to-day their effort lays hold of our minds and hearts as the most hopeful and inspiring spiritual development, up to that time, in the annals of men. Previously Jewish peoples by looking within had developed the idea of one God, and this had hitherto been the most significant achievement of the human mind. But the Greeks, looking outward, saw the unity of all nature and saw man as a part of nature, which was an achievement of still greater value, because their fearless investigations developed a unified system of thought about nature on the one hand

and, on the other, gave us for all time a *method* by which knowledge could be *progressively accumulated.* By this method, and by it alone, could the mental conquests of one man or one age be handed on in such a way that the men of the future could not only repeat the mental operations involved and arrive at the same results, but also, though possessed of no greater mental ability, would have an Archimedes' lever with which they could still more deeply pry open the secrets both of the outer world and of their own minds as well. And as Doctor Sarton intimates, if for the past twenty-five centuries mankind had only walked humbly and constantly in the footsteps of the Greek scientists, the progress of civilization would surely have been greatly accelerated.

I stress at some length the historical development of this new attitude of mind, because it is the very core of any education that to-day can be called liberal, although I do not mean for a moment that it constitutes the whole of education or the only kind of education. But it was this gift of critical thought which came chiefly from the Greeks that offers the largest promise of genuine human progress and universal material comfort, and the happiness that may spring from them. For, as opposed to scientific discoveries and inventions, whatever achievements any age or race makes in politics or art are almost entirely personal, unique and incommunicable. Neither the Greeks nor any other people can tell us how to repeat their superlative triumphs in art and literature. This may for a moment seem strange, because the artist is the most cooperative and communicative of all human beings. His whole passion is to share his emotions, through some outward expression in sculpture, painting, music, dancing, architecture, poetry, fiction or drama, with his fellow men. But he can not tell how he does it so that others also can do it. This is the most fundamental difference, it seems to me, between art and science although I am ready to admit, as I understand Havelock Ellis to claim, that in its higher reaches science itself may be a form of art. Science makes its achievements by mental processes that can be, to a very great extent at least, taught to others, although it may take the artist to carry these processes to their highest fulfilments. And it is because the Greeks, more than any other race, taught us these mental processes and habits that we owe them as great a debt for their science as we do for their art and literature.

Moreover, if we are ourselves open-minded we must see how the world suffers when this scientific spirit and this clear-eyed looking at nature disappear. I am so eager for the reader to appreciate the whole situation as it has affected the actual lives of men and as it is affecting them to-day that I can not refrain from quoting another passage from Doctor Sarton's brilliant sketch in which he outlines the long struggle that went on for centuries among various attitudes of mind toward life and God and nature. This struggle constitutes the real essence of the history of Western civilization, and we must understand it in some degree if we are to grasp with any adequacy a true philosophy of education for ourselves. The outlook of an educated man to-day is to an immense extent the outcome of the conflict among ideals of life which have caused the past twenty-five centuries to run red with the blood of men who hated one another, not because of any differences in animal appetites and passions or because they were driven by hunger and animal need, but because they differed in their ideas about nature and God and brotherly love. Differing ideas of brotherly love and to whom and under what circumstances it should be extended, have caused more wars than perhaps anything else in human history. It is at least interesting to see that when the "glory that was Greece" and the "grandeur that was Rome" and the love that was Christianity came into conflict upon the great stage of the ancient world that the varying fortunes of these three actors in the human comedy, namely Grecian science, gaiety and beauty, Roman utilitarianism, legal organization and brute force, and Christian love and theology were to furnish the chief episodes in the great drama of European history.

Doctor Sarton first sketches briefly the meaning of the culture of Alexandria, which was a mixture of Greece, Rome and the Orient. He shows how it "combined some of the noblest features of Greek genius with new aspirations derived from Egyptian and Eastern sources," and points out that the whole Greco-Roman-Alexandrian world was subjected to "one of the greatest intellectual conflicts in history, the clash between Greek ideals and various Oriental religions, chiefly Judaism and Christianity," during which "gigantic struggle between lay and religious ideals . . . every notion was put into the crucible and new scales of value were slowly adjusted." Describing in bold strokes this tremendous period in human history, Doctor Sarton says:

> The reader knows that this protracted struggle ended with the triumph of Christianity. It was a distinct gain from the *point of view of morality, but a loss from the point of view of scientific research.* This might be considered a third tempering of mankind. The Greeks had taught the nobility of scientific study and that the pursuit of disinterested knowledge is the greatest purification; the Romans had urged the necessity of applying knowledge to immediate needs; the Christians were now insisting that if we have not charity it profits us nothing. The Greeks laid stress

upon truth and beauty; the Romans upon strength and usefulness; the Christians, upon love. The value of the last message in a barbarous and cruel world can hardly be overestimated. Unfortunately, most men are incapable of grasping an idea, unless they exaggerate it to the exclusion of all others. Thus, in this case, most of the people who finally understood that charity was essential did not stop there, but jumped to the conclusion that it was all-sufficient. This led them to consider scientific research not only useless, but pernicious. Thus the ruin of science, begun by Roman utilitarianism, was in danger of being *completed by Christian piety.* It has taken about one millennium and a half to make people generally understand that knowledge without charity and charity without knowledge are equally worthless and dangerous; a great many people do not understand it yet.

It is idle to speculate upon what kind of beings we would be to-day, what sort of lives we would be leading and whether we might not by now be flying on magic carpets, doing away with space and time, and even conquering death itself, if we could only remove the "ifs" from human history. We often foolishly debate "what might have happened if" so and so had not happened. But it does inflame the imagination with wonder as to what might have been if only Greek culture, sobered from its high gaiety by Roman utilitarianism, stabilized in its political structure by Roman law and given a sounder political morality and a deeper concern for human welfare by Christian charity, could have flowed on uninterrupted in ever widening circles of influence down the centuries.

But, as one of the great tragedies of the human advance, Greek culture, with the spirit of pure inquiry into life and nature that it originated, was submerged by Roman utilitarianism. The Romans wanted everything to be useful, they cared little for knowledge that could not be put to practical advantage. In this respect they were like the majority of modern business men: they wanted all scientific investigations to prove profitable—pay their own way at least. The Romans said, as does the modern business man, ''If you can't make money out of it, what's the use?'' And when men pursue science, not because it satisfies the endless curiosities of the mind, not from the pure passion to *know,* but from the desire for use and profit, science itself soon ceases to be profitable. As Doctor Sarton here pungently remarks, ''When people determine to care for nothing but what is directly and obviously useful, the days of their own usefulness are already numbered.''

I wonder if you might not here recall your boyhood enthusiasm for *Locksley Hall* and its prophecies of scientific conquests. You remember the poet sings, with Victorian eloquence, we are the ''heirs of all the ages, in the foremost files of time.'' When we count up our heritage, we are more likely perhaps to be impressed with our ''railroads and our steamships'' than we are with ''the mighty thoughts that shake mankind.'' But the mighty *thoughts* of men and races constitute nearly all of our real heritage.

So it is we have here spread before us the three fundamental aspects of life that have come down to us as our richest spiritual inheritance from the ''tangled mountains of the past'' borne upon these three great streams of human thought and experience. We have the Greek heritage with its passion for the true, the beautiful and the good, its sheer joy in living for its own sake but with its tempering capacity for free criticism of its own experience. We have the Roman heritage of power, law, social organization, teamwork, regimentation, not for the individual's sake but for the good of the State, life conceived of as a thing of grandeur, pomp and circumstance. We have, third, the heritage of the Christian doctrine of love, humility, tenderness, neglect of this life and this world and preparation for a better world to come.

We need not concern ourselves with the struggle that went on among them for supremacy for at least six hundred years until Christianity became the dominating political as well as spiritual and intellectual force of the Western World. The tragedy of the Dark Ages that followed is sufficient proof that when any one of these ideals dominates men's minds, it gives them a life terribly incomplete. Greece failed for many causes, but certainly one of them was its lack of political morality, its tendency to regard political treaties as "scraps of paper" and its consequent continual train of civil wars. Roman life failed as an ideal and, to some extent at least, the Roman State failed as a political entity because of its worship of sheer utility and power and its contempt of fineness and beauty, and of truth for its own sake. While the "honor of a Roman citizen" was a truer and safer thing to depend on than the honor of a Greek, yet the truth of life and the universe as a deliberate study did not interest the Romans unless it was useful in war or commerce. The Christian ideal helped to bring on the Dark Ages because of its contempt, indeed its fear, of free thought and open-minded pagan joy of life and experimentation with life. Later on the Renaissance brought back for a brief moment the glow, joy and beauty of the pagan life of Greece; but once more under Savonarola and the so-called Reformation intellectual freedom was stifled, and the torch of science was for the time being again quenched by Christian theology and the fundamentalist view of life. However, it had been lighted anew by Galileo, Bruno and Bacon, and with varying fortunes the priceless Greek heritage of fearless investigation of nature and courageous experimentation with life has been handed down to us.

Such a sketch as this may easily be misinterpreted because of its vast incompleteness, but that we *are* the heirs of these three great philosophies of life, the Greek, the Roman and the Christian, and that we now have sufficient political and social freedom throughout the Western World to combine them in due proportion in one great scheme of education and develop from this combined heritage a greater, truer and more beautiful life than has ever been possible in the history of men,—this is a thought I wish I had the power to impress upon the eager and aspiring youth of our time.

Even from this meager outline we must see that men at different times and in different places have lived for almost totally different things. Men always lived for the things that appeared to them valuable. On the whole they do the best they can with the circumstances they have at hand. When we say that life is just what we make it, we mean that life is made up of the values we have learned to assign to things and to experiences. One person learns to place value chiefly on money, another on learning, another on reckless adventure, another on human service, another on beauty, and so on endlessly. Now, education consists in teaching people to value the things that bring the richest and most permanent satisfactions, the highest possible rewards of both body and mind; and while there are infinite ramifications and overlappings, yet we have already seen that we are the inheritors of three great sets of values from the Greek, the Roman and the Christian. We have also seen that none of these peoples succeeded in erecting a permanent political State or enduring economic structure; and, as we look back at it now, it seems clear that these states failed because no one of the schemes of life gave the richest possible set of values to the men who lived them. There is something left out of each of them. There is, indeed, something left out of the life of a man who espouses any one of them to the exclusion of the others. Likewise, there is something left out of the life of a nation that tries to live by only one or two of them. As time goes on it dies, so to speak, by its own hand.

It seems certain that life never meant as much to the citizens of Greece, Rome or Judea as it might have meant had all three of their schemes of life been blended into one. The possibility of such a synthesis was not open to them, although some of the nobler Greek and Roman philosophers endeavored to combine, in their own lives, the three sets of values. But they were not able to impart this spirit to their respective nations. Could they have done so, surely the nations would have endured longer, perhaps permanently.

Possibly I can illustrate these intellectual and emotional phases of education by one or two homely examples. A man devoted exclusively to the Roman ideals of strength gives us little better than a gladiator or prize-fighter. John L. Sullivan and Jack Dempsey are cases in point. Yet I feel sorry for the man who does not find virtues and ideals worth striving for in the lives of Dempsey and Sullivan. I feel sorry for the man who takes no interest in the sporting page of the newspaper. He misses certain honest and robust values that would make his life mean more to himself and to others. But I feel sorry also for the man to whom such characters and such lives represent *an all-absorbing ideal.* We have millions of such people. And such people are profoundly uneducated; they belong to the Roman mob and would be perfectly ready for some Cæsar to feed them free of charge at the public tables. You can not teach them anything new because they have no openness of mind such as the Greek spirit would have given them by which they could learn anything new. You can not teach them social responsibilities; you can not teach them to suffer over public wrongs, but only to shout for their own rights, which means they want what they want to the exclusion of what anybody else may want or need or have a right to. There is in them no Christian softening of their own desires, no tender social sympathy, no insight into social well-being or ill-being.

We can rail at Christianity all we please, its childish, or rather we should say its primitive, conception of nature, its antagonism to science, its intolerance of open-minded inquiry; yet it has given us a heritage, and a very great one, in the concept of unselfishness, of other-worldliness, of concern for the lives and fortunes of other people. Christianity has done more than any other scheme of life to give men a sense of social responsibility. It teaches that each man is his brother's keeper. Alone, it fails and always will fail because it does not teach him how to be an intelligent keeper of his brother. Christianity could never have given men a true morality because only science can do that. It is very well for Christianity to preach that you should love your neighbor as yourself, but how can you love your neighbor intelligently if you do not know what is good for him? And *nothing can teach you what is good for your neighbor except experimental science.* Christianity can give you the passion to save your neighbor, but only science can give you a workable scheme for his earthly salvation.

On the other hand science alone could never have given men the *spirit* of social welfare. I know numerous scientists who have a positive contempt for the welfare of their fellows. The notion of helping humanity has never entered their souls as a possessing passion. Of course, they talk in a vague way about their researches and discoveries being a human benefit, but even here, they speak most feelingly of its benefiting "pure science." You could never induce them to leave their laboratories and go either to a prize-fight or a meeting for raising funds for the orphans of policemen killed while defending the public safety.

Still further, you find innumerable disciples of the Christian doctrine whose hatred of science is a passion, who believe if there is fun in a thing it must be wicked, who hold up their hands in horror at Sunday baseball and who regard a prize-fight as a brutalizing machination of the devil. They regard smoking a cigar in the same light, and the most temperate use of alcohol as an exhibition of pure human depravity. They pretend to distinguish sharply between the "natural man" and the "spiritual man." Their conception of the spiritual man always seems to me to be the natural man with all the fun taken out of him. They fail to see that life was made for gaiety and beauty, for light-heartedness, and delicacy and fortitude, for risk, hazard, courage and adventure as well as for self-restraint and temperance. In short, they have emphasized one great set of values to the exclusion of all others.

This sort of Christian should open his eyes to the beauties and truths of science, for, if he does not, he fails sadly in his own obligations as a keeper of his brother; if he does not espouse science with all his mind and heart as the chief means of serving his brother effectively, very often his brother will literally perish. In other words, you can not be a good Christian with any breadth of meaning to the word *good* without using science, which comes to us from the Greek spirit, to make your goodness truly helpful to your fellow man.

Furthermore, without the Roman strength, endurance, robustness, straightforward hitting-from-the-shoulder, neither Greek science nor Christian love would give us the truly educated man. For a man to be completely educated, therefore, in the modern sense, he must combine within himself these three great schemes of human life, these three sets of values, these three series of meanings. He must be touched with the social passions of Christianity, enlightened by the Greek passion for truth and beauty, and energized by the Roman will to power. Such a man and only such a man is in the modern sense—in every sense—humanistically educated.

CHAPTER III

He Achieves the Techniques of Open-Mindedness

I have pleaded in the previous chapters for open-mindedness. But open-mindedness is a very definite achievement. It is not a gift from heaven, at least with the majority of us. It is the most difficult but most worth-while achievement the human mind can make. It is not only an intellectual feat of the first importance, but it goes to the root of a man's character. It colors all his views of life and what he believes about himself, about others, about the world he lives in and his own place in it. If you arrive at your beliefs by the way of open-mindedness you will believe one set of things; if you arrive by the way of tight-mindedness, you will believe quite a different set of things. And you will behave differently, will exercise a different kind of influence. You will have a different sort of personality. In short, you will be a different kind of person as you move through the world.

Consequently, what a man believes is the most important thing about him. As that sometimes extraordinarily wise man, Gilbert K. Chesterton, points out, it is more important for a landlady to know what her boarder believes than to know his income. What a man believes is the innermost man himself and determines his sense of obligation, his manner and degree of cooperation with his fellows, whether he pays his bills or lets the other fellow hold the bag, how he votes on the tariff, or disarmament, or taxing dogs, or subsidizing parents for producing more babies, and how he feels about infant damnation or salvation by blood.

It is one of the most significant developments among modern business men that they are beginning to recognize the importance of a man's beliefs. In hiring and firing a man, they are taking his beliefs into large account. One of the largest employers in America assured me the other day that when interviewing a man who applied for a job, as a machine tender or an executive, one of the first things he did was to try to get at his beliefs—his beliefs about religion, politics, death, taxes, women, money, marriage and the like. These, he said, constitute a man's life, they are why he works and what he works for, and are as essential for an employer to know as is the degree of his technical skill.

In the process of getting at a man's beliefs you become quickly enlightened as to whether he has arrived at them by that particular kind of open-mindedness known as science or by rule of thumb. If he possesses the open-mindedness of science you will find that he always seeks to correct and revise his own opinions, and to find rational and logical explanations of phenomena. If he has arrived at his belief by rule of thumb, you will see that he tries to get evidence that will bolster up the beliefs he already possesses, and to find irrational, magical, short-cut, metaphysical and extra-mundane explanations of the problems of life and mind and the universe. The later method leads straight to tight-mindedness; and the conflict between these two attitudes of thought and education has caused all the battles of the world. Nearly all human history has been a straight out campaign between the open-minders and the tight-minders.

It is easy to discern the difference between the two. If a man has espoused the open-mindedness of science and understood its technique, he will have very little confidence in his own opinions, except the few that are based upon experiment. If he has not espoused this method, he will cling passionately to some system of beliefs, which may or may not be true .but which can not be subjected to experiment. To such a man his beliefs are more precious than the truth. He will likewise espouse all sorts of governmental and political fallacies, such as free silver, fiat money, governmental manipulation of farm prices and the like; he will probably talk glibly of "living in the fourth dimension," without the slightest idea of what the fourth dimension means, except that it is something very large and indefinite; he will likely be found among the new thoughters, theosophists, occultists, astrologers, numerologists, palmists, antivivisectionists, antivaccinationists, anti-evolutionists, and star-gazers generally.

Nearly all these good people have a philosophy of life and death, of love, virtue, beauty and duty that is very noble and inspiring. But when their beliefs, as John Burroughs said, "have to answer the awful question, are they true?", they have nothing but their own personal experiences and emotions to present in evidence. These folk even lecture learnedly on Greek architecture, poetry, beauty and morality, and yet the real basic heritage of mental habit and process, that the Greeks bequeathed, has been left entirely out of their education. They seem to reason clearly, objectively, logically about their own practical affairs. They often make a great deal of money—nearly always by using the instruments and discoveries of science which they do not understand; but the moment you approach anything remotely affecting a rational and experimental explanation of natural phenomena, they veer off into mystical verbiage which, while it may be the truest things men's minds have ever known, yet certainly is not science.

These tight-minders are the half-educated people of the modern world. I think they are far more dangerous to civilization than the uneducated and the ignorant. This is because the ignorant man to-day is ninety-nine times out of a hundred a man of low intelligence. But these people do not lack intelligence. They are just as bright as anybody. What they lack is education—specific education in the technique of open-mindedness.

Let us consider one or two illustrations of half-educated, brilliant intelligence. I see by the morning paper that one of our leading motion-picture actors rode all the way from California to New York on the train instead of going by airplane, because his horoscope showed that it was a dangerous time of the year for him to ride in airplanes! I can not help wondering what might have happened had he defied the stars and risked an airplane and found other passengers aboard whose horoscopes showed that this was a particularly safe time for them to ride in airplanes. This man has grown enormously rich and famous solely out of science. We also read of a great many actors and actresses and many poets and writers of fiction giving similar exhibitions of this strange lack, not of intelligence, but of *modern* education. I say modern education, simply because nobody who is truly educated in the one great contribution that open-mindedness has given to the world, modern science, ever does such things. A scientifically educated person could not do such things; he honestly would not know how.

We could multiply these illustrations indefinitely. It is widely reported, for example, that the heads of one of the largest and most famous private schools in America—a school attended almost exclusively by children of the very rich—do not undertake any important practical policy without first consulting a famous female astrologer. We see business men of high standing, not by scores but by thousands, consulting these same sources of divination, instead of statistical analyses, for the conduct of their own business.

The difficulty is you can not prove to these people that their beliefs are not true. This is because you *can not prove a universal negative.* They always "prove" their beliefs by pointing to particular instances where these beliefs have been successful. You may be able to prove that this success was due to perfectly natural causes, but they can instantly cite other particular cases and then you are up against disproving this special instance, and so on endlessly. They seem somehow unable to grasp underlying laws and principles, although they talk of little else.

People who believe in telepathy practically always proceed by this method. They cite some particular set of occurrences that seem rather mysterious and think they have proved this to be the general law of nature by exclaiming triumphantly, "How else *can* you explain it? If telepathy doesn't explain it, then what does?" All a scientist can reply is, "There may be such a thing as telepathy, but a scientist, trained in open-mindedness, would never dream of coming to any belief at all about such a tremendously important thing as telepathy by simply considering the personal reports of a few people about rather complicated sets of circumstances." In other words, he could not accept telepathy as an explanation until he had first exhausted all other explanations and second, until he could see evidence of a positive character that the brain processes even permitted such an explanation to be suggested. In other words, the scientist merely says, "*Why have any beliefs about it at all?* We are not justified in setting up a belief in a general law of nature until we can submit it to experimental proofs with a thousand times the reliability and validity of the personal impressions of a few people with reference to curious occurrences in human affairs."

One of the most distinguished writers in the world said to me the other day, "I do not need any proof of telepathy, because I have personally experienced it. I had an experience which you can't explain in any other way." Perhaps *he* could not, yet his personal conviction would have little effect upon a scientific mind. But in circumstances such as these one is up against a *type* of mind and a system of education. Even if you disprove this particular instance or show some more rational physical explanation, this type of mind practically always says, "But here is another instance," and so, you are confronted again with the impossibility of proving a universal negative. You can not, for example, absolutely prove there are no such things as ghosts. If a man personally asserts that he has seen a ghost, you might be able to prove that in this case what he saw was a suit of B. V. D.'s on a clothesline in the moonlight. But that type of mind would soon see other ghosts when there was no clothesline, no B. V. D.'s and no moonlight.

I have spoken of open-mindedness and tight-mindedness as representing two types of mind and two systems of education. I think perhaps I should have used the term two *habits* of mind or two habits of thought rather than the term types of mind. This is because the word "type" when applied to living creatures of any kind, usually brings to our mind the idea of natural divisions of species. If, for the moment, we used the word type in that sense, it brings us squarely into contact with one of the profoundest questions in education. How did these people get that way, and how did the scientist get his way? Is each way of thinking just a natural phenomenon or is it due to the way they were educated?

I have puzzled for many years over this question, particularly in studying my warm personal friends.

Some of them always take the cautious, analytical, skeptical, open-minded, scientific point of view on practically every question that comes up, particularly every question that remotely concerns the nature of mind or the ultimate problems of life and the universe. I have, however, another large group of friends—and it truly seems to me they usually have more money than the scientific group and have had even wider opportunities for education—who persistently join mystical societies for the "higher metaphysics," antivaccination and antivivisection societies, become devotees of various forms of occultism, and they readily explain the most obscure problems of the nature of mind and the nature of the universe by a string of enigmatic, mystical, esoteric jargon that has no reference to the world in which the scientist has compelled himself to live. They may be right. I know of no way to prove—at least to them—that they are not right. All I can say is that their methods of thought would never have given us *one* single scientific discovery; they never would have discovered that the earth is round or that it travels around the sun; they never would have discovered the law of gravitation or the speed of light; they never would have invented a printing press or an airplane or a quantum theory, or a theory of relativity, or a device for measuring the effects of different procedures in experimental education.

I am not here endeavoring to prove that the contemplative, meditative, mystical philosophies of life and experience are not true. Their explanations of God and immortality and the nature of mind may be more true than those of experimental science. Plenty of men, of fine intellect and noble spirit, in all ages, have lived lofty and beautiful lives without science. Their philosophies of reality may be truer than those of science. Yet it seems obvious that science is the salvation of men in this world in every practical sense and for every practical purpose. Science, as I have said, is not the whole of life nor the whole of education but unless life and the training of the mind are approached in the noble integrity of its spirit, in the rigidity of its logical processes, in its unswerving skepticism, then I think the highest education of any man is not possible. No man in this Western World can in this age claim to be educated who does not achieve the scientific spirit and seek to apply its method in all of his thinking. It is, therefore, curious, and, I confess, somewhat depressing to see our dearest friends, as we often do, driving in automobiles, riding in airplanes, choosing their food with the proper proportions of vitamins or, it may be, dilly-dallying over a cocktail or a cup of tea—all the products of science—and, at the same time, indulging in a dilettante concatenation of irrelevant arguments and assertions about some astrological or occult or mystical philosophy of the world, which, *had all men believed it and lived it, would have left them without their dainty confections, their vitamins and automobiles and had them still dwelling in caves among the troglodytes.*

It is disconcerting to realize that these excellent people believe themselves educated. They are half-educated, notwithstanding their high intelligence. As I have said, I have puzzled a great deal as to whether they represented a natural type of mind or merely an inadequate education. A number of considerations lead me to a rather strong belief that they do not have natural kinks and twists in their minds which prevent them from achieving the open-minded skepticisms of science, but that they have simply developed wrong habits of thought—habits that will prevent them, no matter how much learning they may obtain, from ever becoming educated. I believe that at least a partial solution of this puzzling mental anomaly is that these highly intelligent people have probably never received a sound education in science in their youth. Thus, when they come to manhood and womanhood, although they are surrounded with the products of science, they are the products of a way of thinking to which they are well-nigh complete strangers. Furthermore, they find themselves confronted with problems of life and destiny for the solution of which they have no adequate mental techniques. They thus adopt naïve explanations that would have been entirely satisfying in the Middle Ages, indeed, they would have been the only solutions possible. You thus see the curious paradox of highly intelligent people, often possessed of extensive scholarly attainments in other fields, who, in the presence of a problem of nature, have no solution, and indeed no way even of understanding a solution that is beyond that of primitive and superstitious man.

Of course, these people *talk* a great deal about the discoveries of scientists, but what they do not know that they do not know is *how* these discoveries were made. They think that merely being able to manipulate a scientific instrument gives them an understanding of the mental processes by which that instrument was invented; especially do they think that using a scientific product skilfully gives them an understanding of the scientific techniques that lie at the basis, indeed, constitute the basis of scientific thinking and method.

This curious mental situation is fairly well illustrated by the methods of teaching arithmetic in vogue before Professor E. L. Thorndike and his students attacked the obscure problems of the psychology of mathematics. Professor Thorndike found that the so-called "problems" in the old school arithmetics by which you and I mislearned the rudiments of mathematics were scarcely problems at all. The answers and the methods for achieving them were practically all revealed by the statement of the problem itself in the text-book. Professor Thorndike developed an arithmetic—selling, praise be, over two million copies—in which the student must discover *what the problem is* and devise methods, with appropriate guides for the beginner, for reaching a solution.

Now these people are in very much the same situation. They can talk a great deal about scientific matters and discoveries. But set them to solve a scientific problem for themselves and see what they do about it! Place before them a mass of complicated data such as a complex situation in physics or chemistry or statistics and tell them, first, to find out what the problem is and, second, work out methods for its solution and devise techniques or utilize already known techniques for *calculating the range of their own probable errors,* and they are as helpless as children. The simple fact is they do not know anything about *science;* they do not know how to handle facts or evaluate them or do any sort of original thinking. And I can scarcely believe that this is due in any large measure to lack of intelligence; I believe most of it must be due to lack of training. I have a great deal of faith that in the coming decades these people can be considerably decreased in numbers and vastly better educated through the advances of educational psychology and their application in experimental education. If this can be done, education will surely be justified of her children; she will remove a great many of the most dangerous persons roaming at large in the modern world, namely, those who have become rich and influential through the discoveries and inventions of science and who not only do not understand or enter into the spirit of science, but often even use their wealth and power and influence to defeat scientific progress and thus, in the end, destroy the creations of science that have made their economic and social joy-rides possible.

CHAPTER IV

HE ACHIEVES THE TECHNIQUES OF OPEN-MINDEDNESS

(Concluded)

IF YOU have, therefore, become convinced by the previous pages that open-mindedness is worth-while, that it is the only way of using the mind by which we can achieve truth about experience or nature, unbiased by our wishes and desires or our personal fortunes; if you are convinced that it is worth-while to try to achieve it, you will be willing then, I believe, to apply three questions to your own thinking that I have found very helpful in trying to educate myself. They might be stated in a hundred other ways, but I have found them in this form very useful. One can easily become a walking encyclopedia of information without ever having asked himself these questions or applied their principles. But if you wish to become an educated person, instead of merely a highly informed one—or possibly a highly informed fool—you will ask yourself these questions, or questions like them, every day of your life. If you rigidly ask and answer them, they will come to your aid in solving every problem and become the background of your clearest and most effective thinking.

I often call these questions or maxims the ABC's of education:

A—Do I really want to know the truth about politics, business, science, religion, morals and life, or do I merely want to prove that the notions I already have about these things are correct?

B—Am I willing to lay aside the convictions of a lifetime and all the traditions and beliefs of history, and all the customs of my social class when I come into the presence of a new fact, long enough to find out whether or not this new fact ought to change my point of view?

C—Have I ever, without mental reservation, prejudice, bias, set notions and dogmas, surrendered my mind and heart completely to the examination of the reasons for my most cherished opinions; that is, have I ever surrendered my mind and heart completely to an acceptance of the truth, whether it shall lead me to hell or heaven?

Unless you do in some way achieve these techniques of open-mindedness I doubt that you can ever hope to become truly educated. I doubt that your knowledge will really change you or make you any more effective. It is easy to learn all there is in the encyclopedia without becoming much better able to handle facts to fruitful ends than you were before. Your knowledge has not changed you, it has given you no new wisdom, it has not given you the knowledge that really becomes power. For, notwithstanding the motto that the teacher's pet used to work on cardboard with colored yarns and hang above our schoolmaster's desk, "Knowledge is Power," knowledge is not power until it touches and moves the will and conscience. Knowledge is not power until it gives a man a new world to live in. Knowledge is not power until it has furnished a man an attitude, a drive, an enthusiasm for life's real meanings, a faith in its true values so that readily and easily it enables him to force his mind into one groove of thought and keep it there until his will releases it.

Knowledge is not power until it has set a man's feet on the highway that carries him along for ever on the "disinterested endeavor after perfection."

In this mechanized age when psychological tests and educational measurements seem to be the chief end of education, and when speed, jazz and "bull movements" in the stock market appear to be the chief end in life, it may evoke a smile to recall Matthew Arnold's phrase (mentioned in my preface) that culture is "a disinterested endeavor after perfection." Yet, not so long ago, when I was a college freshman, this phrase set our blood going so wildly that when I quoted it in a letter to a classmate who was out selling books to secure his next year's college expenses, he telegraphed me to know where I had got it, who had said it and what more this wonderful person may have said about culture. It is perhaps unnecessary to add that the boy who sent me this telegram is to-day, and has been for many years, one of America's most inspiring educators. I would to heaven I could make education seem as attractive as this to every youth in our land!

When the "old boys" go back to the college campus, they have a way of saying that the new boys do not possess this spirit toward knowledge. I see no reason for thinking so. I do not know where they get the idea unless it is based on the notion that we have so many diversions and excitements nowadays it is harder for our young people to keep their minds and hearts set upon things of the spirit. I think, however, an actual census would show there are far more young men and women who are engaged in this disinterested endeavor now than in what seems to us older fellows to have been the "great old days" of mental adventure. Our views may be distorted by the fact that the actual numbers of young people who go to school and college are many times greater now than then. But if even one-fourth of them are really getting an education it is a much greater number, indeed, a much greater proportion to the actual population who are becoming educated, than was the case a generation ago. A business man said to me the other day, with the vast assurance of the half-educated man when he speaks of the things he knows the least about, ''The trouble is there are too many people nowadays getting an education.'' ''Oh, no,'' I replied, ''there may be too many people *going to school,* but you *can't* give too many people an education.'' I long ago found that what an old friend said on this point is true: ''The more ignorant a man is, the more positive he is in his opinions.''

Although they may not put it in Matthew Arnold's inspiring phrase, I feel, especially in view of encouraging developments in adult education, that there are more people than ever engaged in this disinterested endeavor to cultivate themselves, to become more perfect human beings. And we should remember that Arnold went on to define ''perfection'' as not a ''having and a being'' but an ''eternal becoming.'' An eternal becoming something better—something more fruitful, more inspiring—something more like the angels and the sunshine. In this sense then, education *is* the ''pursuit of perfection''; it *is* ''a disinterested endeavor after perfection''—a never-ceasing endeavor that loses all its power if it fail for a moment to be disinterested, and loses all its beauty if it be for a lower ideal than perfection.

Yes, education is an eternal becoming something better, an emerging into a large portion of the world's good,—not the world's *goods,*—a ceaseless developing into a being more inclusive in its powers of experience and appreciation; it is an endless journey, as the Greeks conceived it, toward the good, the beautiful and the true. And if this be the truth of the matter, a man can not be getting an education, he can not be educating himself, unless he be a good man. No man can be educating himself and at the same time be a bad man. The two kinds mutually exclude each other. We should remember what Professor John Dewey says in substance a good man or a bad man is: A good man is a man who, no matter where he is now, is getting better; a bad man is a man who, no matter how good he is now, is getting worse. And we should also recall with Professor James, that one of the chief results of a liberal education is to be able to tell a good man when we see one.

It is a great day in a man's life when he comes to this mental attitude and makes this surrender to truth. Something happens to him. He has mentally "come to himself." He has become educationally "converted." He has been baptized into a new faith in himself, in the world and in his fellow man. He has entered into a new kind of life, the kind of life that has made the whole world of science possible, and has given men all the objective knowledge they have now or will ever possess.

When a man has made this surrender to truth, he is no longer afraid. For the first time in his life, he is free, free from superstition, from dogmatism, from authority. He is free because he trusts his own intelligence. He knows his intelligence will make errors but he knows that only intelligence will correct these errors. He gains a new courage because he relies upon himself. He finds himself in possession of a strange new power—the power to handle and control facts, still greater even, *the power to discover new facts for himself*. He finds, for the first time in his life, that his knowledge *has* become power—power to move men and things.

Such a man suddenly finds himself exercising a strange new influence over his fellows. His neighbors notice the change, as they do when a drunkard reforms. His superior officers notice it and mark him for promotion. His feet are at last on the highway toward the four great objectives of life and education, namely: poise, power, peace and freedom.

Sometimes this miracle happens to a man at the work-bench. Sometimes it does not happen to him in the chair of the university professor. *But wherever it happens and to whomsoever it happens, there, and there only, is a man who is well on his way to becoming educated.*

It is just this miracle that has never happened to the cultists, adherents of sects, bigots, dogmatists and anti-scientists of every variety and description. Many of these persons are of noble character, but they are lacking in the ability to discover truth, *to identify truth when they have discovered it.* Unless this miracle of open-mindedness and a humble "acceptance of the universe" has happened to a man, you find he is always trying to "prove" something. He is always searching for something that will bolster up what he already believes. He is always crying for "more faith," whereas, as Huxley said, the scientist is always crying for "more knowledge."

The true lover of truth, the scientist, or the scientific philosopher, never wants to prove anything. He constantly looks about over what knowledge he may possess, merely to see what it does prove. When he goes out into the unknown, he does not start with a preconceived opinion, looking for evidence to support it. As a mere practical procedure, a scientist does set up a hypothesis, but, God forbid, he is not trying to *prove* it but to *test* it! He wants to see if his preliminary guess fits the facts or the facts fit it. The dogmatists rail at him, indeed, in this day of propaganda, they ''razz'' him for not being more positive in his opinions. Maybe, as yet, he is unable to form an opinion. Then why have an opinion? A scientist may go out searching in the unknown for days, even years, and as Samuel McChord Crothers has said, he may return ''without a single opinion to his back.'' The cultist laughs at him and says, ''He doesn't know what he believes.'' Frequently he does not believe anything. Then why believe something that isn't so, or that may or may not be so? By his very habits of mind, by the kind of life he has espoused, he can not believe anything without evidence. Moreover, it must be evidence of a particular kind, namely, objective evidence, evidence outside himself, tested evidence, quantitative evidence, comparative evidence, measured evidence, experimental evidence. He must have evidence that can be reduced to measurement, to number. He knows, as Lord Kelvin said, ''You do not have science until you have number, and when you have number you have science.'' When you can say you have so much of this and so many of that, you have science. And you do not have science until you can say this.

The scientist knows, as Thorndike has pointed out, that everything that exists can be measured. For, as he says, ''If a thing exists it exists in some *quantity.''* You can, therefore, compare it with some other quantity of existence.

Many people say, ''You can't measure the mind.'' Why not? The mind exists, does it not? Some men think better than others, they think more often than others, faster than others, more fruitfully than others. Some think twice before they speak, some think once, and some do not think at all. Thinking is mighty hard work, and most people slide around it and grab an opinion instead whenever they can. It is so much easier and pleasanter to have an opinion than it is to think. Indeed, it is a perfect bonanza if this opinion has been provided by somebody else,—by the Fathers or the Canons, or the Catechism or some constituted authority. However, why not see how fast or how often or how fruitfully two men think and see which comes out ahead? There you have measurement, you have number; in short, you have science. In other words, you know something.

I believe these considerations show that the line between the two, the open-minders and the tight-minders, is a sharp, clean-cut dividing line. It literally separates the sheep from the goats. These two types of people may have equal intelligence; mental tests might indeed disclose that the latter has more intelligence than the former; but they most emphatically do not have equal education. If a man never gets past this point, he belongs all his life, particularly on every question of the nature of life and destiny, among the tight-minders. If he does get past it, he has entered the great, free, joyous company of the open-minded—the only people who have ever contributed anything to human progress; the only people who become steadily wiser and who make their fellow men wiser; the only people, as Woodrow Wilson said, who touch each rising generation with new impulses, whose knowledge "broadens down from precedent to precedent" and who add from century to century to the "world's fitness for affairs." And, as I have repeatedly said, it all goes back to this miracle which is attainable by the humblest man, but which many of our "best people" never achieve—the simple miracle of learning the ABC's of open-mindedness.

It is easy to see how practical this all is and how astoundingly effective. This miracle happened to

Columbus and he discovered America; to Galileo and he invented the telescope; to the Greeks and they invented science; to Pasteur and he lengthened human life; to Mendel and he discovered the laws of heredity; to Galton and he invented the science of being better born; to Pestalozzi and he envisioned a new education; to Darwin and he gave us a new view of organic life and of man's place in the living world.

The encouraging thing about it is that it is all so simple, so practical, so every-day, and yet it means so much in the life of the world, because it affects every current and rivulet that together make the great stream of history. The greatest difficulty is that so many people keep their minds open in their youth and then close them for the rest of their lives. It is a pathetic and unnecessary fact that few people learn anything after they are twenty-five years old, and many of them learn nothing after they are fifteen or twenty. This is not at all because they can not learn, but because they have never learned how to learn anything new. They have good enough minds but they have no use for them. Except for carrying them through their daily routine of doing their housework or office work, or attending committee meetings of organizations for keeping things as they are, or making money, their minds are of no use to them or anybody else. Such people, as that wise wit (and a man has to be wise to be a wit) Samuel McChord Crothers said, ''go through a process which they call 'making up their minds.' And when they get it made up, they close it with a snap.'' The process is delightfully described by an old lady in one of the novels of Mary Wilkins Freeman who says:

''I make up my mind slow, but I make it up firm.''

After such people get their minds made up, a new fact could not drive its way in with a hydraulic ram. They have definitely joined the ranks of the intelligent half-educated. It is just a bit pathetic but we have to recognize the truth that education for them must for ever remain an impossibility.

Naturally and logically, I have dwelt much longer on these marks of an educated man, the techniques, the ABC's of open-mindedness, than I shall on any other, because they are *preliminary to all education.* If a man never learns these ABC's there is no way known under heaven among men by which he can be educated; but if he once learns them, once catches on to the method—and it is so easy and so simple, *anybody can do it*—then all things in education and all it means are within the range of his possibilities.

CHAPTER V

He Always Listens to the Man Who Knows

When I was a boy I heard a story told by a lecturer at our County Teachers' Institute in the old court-house at Vernon that I have never forgotten, a story that goes to the heart of this phase of a man's education. I have forgotten the lecturer's name, but as the story went, Old John Crosby was the best farmer in Johnson County. His corn and hogs and pumpkins always took first prize at the County Fair. The way John Crosby farmed was a model for the whole county. If he plowed and planted at a certain time or in a certain way, or bred his stock, or fattened his cattle this way or that, it must be right. It was the "Crosby way" and that was the last word among the Johnson County farmers. He believed this and his neighbors believed it. Old Crosby scorned "these scientific fellers," as he called them, "who write pieces for the agricultural papers."

"Them fellers just spin these scientific yarns out of their heads, while they are settin' in their laboratories," said Old John. "They go in one of my ears and out both. You can't teach farming in a college." And that settled it.

But his son, Young John, had gained a different notion from the new high-school principal. This principal was different from the previous ones for, strange to say, he took the pupils out of the schoolroom into the fields and did a great deal of his teaching under the skies, in the wind and sunshine and even in the rain. He showed them about plants and animals and rocks and trees, where they could touch nature at its heart and feel its pulses for themselves. He was a mental kinsman of Plato and Socrates and Aristotle, of Pliny and Marcus Aurelius, of Pestalozzi and Horace Mann, of John Dewey and his educational confrères, for he tried to make his school, as all born teachers do whether they have ever heard of these masters or not, a part of life instead of an addition to life.

This principal had inspired Young John with the notion of going to the State Agricultural College. Old Crosby, of course, pooh-poohed the idea, but finally yielded to the combined pleadings of the boy and his mother, and the lad went off to take the short winter course.

"But when you get back," warned the Old Man, "I'll give you half of the west sixty and I'll take the other half. We'll put them both in corn and then I'll show you what those fellers in college don't know about dirt farming."

When the young man came back home, Old John got a great deal of amusement out of some of the boy's "new-fangled ideas." "Wants to give the cows a 'balanced ration,' " laughed the Old Man at the village store. "Says some of 'em are just boardin' on me and are not payin' their keep. He thinks I don't know milk when I see it."

One morning, however, in the early spring, Old John said to Mother Crosby, just a bit uneasily:

"Mother, what's that boy got in his room up-stairs in the south window?"

"Oh, just some boxes o' dirt, testin' his seed corn," replied the mother cautiously.

"Huh!" snorted the Old Man. "Do you reckon I've been selectin' seed corn for forty years and can't tell a good ear from a bad one?"

But Crosby could not help noticing that the boy had scarcely any replanting to do, while nearly one-fifth of his own corn failed to come up.

And so it went all through the summer. When the dry weather set in, the boy kept right on plowing but the Old Man laid off as usual.

"He don't seem to understand," said Crosby, "that all this plowing when the ground is dry will just make the moisture evaporate."

But the boy went on plowing just the same and kept his own counsel.

Finally, in October, when the corn was cribbed, Old John proudly put in his usual seventy-five bushels per acre. But when Young John weighed in his last load the average was ninety!

The next morning the Old Man came down to breakfast in his Sunday blacks and with his satchel packed.

"Why, Father," exclaimed Mother Crosby in astonishment, "are you sick? Where are you going?"

"Oh," replied the Old Man, with a sheepish grin, *"I'm going to college."*

For all I know Old John Crosby may have gone to college for the next twenty years and may now be a professor of agricultural chemistry, but the biggest day in his education was the day when he closed his satchel, and opened his mind to listen to the voices of those who knew.

However, there is one point in this story, an extremely important point in education that we should not overlook, and that point is that Old Crosby *already knew a great deal.* His practical mind and long experience had taught him many things worth knowing. He was not by any means altogether wrong. In many respects he was eminently right. He was right when he said, "You can't make a farmer in college." You can't.

Neither can you make an expert accountant, or a doctor, or lawyer or engineer, or artist or any other finished educational product, fully fitted for the practical work of life. The best educational systems will never be able to put out a youth equipped with the whole armor of both experience and academic training, a full-fledged artist, craftsman or practitioner, as Minerva sprang full grown from the head of Jove.

You should, therefore, observe that Old Crosby was already getting seventy-five bushels per acre and the college added only fifteen. So, when he got to college, I have not a particle of doubt that he had a great deal of value to tell the theoretical and experimental professors. And if those professors did not listen very carefully to Crosby's practical knowledge, I do not believe they had very much knowledge to give him in return. They were just as much tight-minders as he was before he humbled his mind and joined the educationally converted. Crosby was wrong when he assumed the professors had nothing to tell him; and they were wrong if they assumed he had nothing to tell them. When he got back to the farm and combined his long practical experience with his theoretical and experimental knowledge, I suspect that he beat Young John about as badly as Young John had beaten him.

It is only when the schools and the practical man get together that we shall develop the best farmers, or accountants, or the best business men, or the best anything. I was deeply impressed with this line of thought as I lunched the other day with two friends, a celebrated psychologist and the manager of one of our great chain-store systems. The business man wanted the psychologist to help him in selecting his employees, and he asked him what he would do if he should come into his plant.

"Why," replied the psychologist, "my first job would be to find out *what you already know and what you have tried.* I want the benefit of your practical experience first. No scientist can get his knowledge out of the air. His first business is to get a grasp of the actual physical facts of the situation. A man might have twenty times as much knowledge of the human mind as the best psychologist now has, but he could not help you very much unless he knew the situation amid which your men work, what kind of men they now are, what kind of men you think would be better. I might select much worse men than you have, because my first duty is to know the jobs. I must first know what the jobs require before I can tell what would make a good man or a poor man to fill any one of them. It is, therefore, only by combining your experience with what theoretical knowledge I may possess that we shall be able, by our united efforts, to secure better employees."

When business men and scientists, school and industry, education and life, culture and the day's work, strike hands in this royal and loyal manner, both business and science, education and life will reap immense financial as well as humanistic rewards.

In fact, just about the greatest day in a man's life is the day that he learns *when not to think.* I am indebted to Professor Edward L. Thorndike for this way of expressing the difference between the tight-minders and open-minders, between Old John Crosby before his conversion and Old John after his conversion. As Professor Thorndike suggests, probably half of all failures in business are due to the fact that men have not learned when not to think and when to call in the expert to do their thinking for them. A recent report by Dunn and Bradstreet shows that very few men who fail in business fail because of lack of intelligence. These men have the ability to think but have done too much thinking of the wrong kind. They have tried to do their own thinking and they have failed just because they did not know when not to think and to get some more experienced head to think for them.

It was this kind of people that Jesus, who was one of the greatest educators that ever lived, had in mind when He said one day to His followers:

> Which of you, intending to build a tower, sitteth not down first, and counteth the cost, whether he have sufficient to finish it?
>
> Lest, haply, after he hath laid the foundation, and is not able to finish it, all that behold it begin to mock him,
>
> Saying, This man began to build, and was not able to finish.

I think Jesus had in mind here two classes of people. The first class is that large number of people who have ''hair-trigger constitutions.'' They are all the time going off half-cocked; they are constantly biting off more than they can chew. They are built on what psychologists call the ''all or none principle.'' When an idea strikes them, they do not instantly call up counter-ideas to check and balance the first one. They lack the thing we call judgment—the power of holding numerous considerations in mind, giving due weight to each one, setting them in proper proportions and relationships and thus reaching a logical conclusion. Their conclusions are not based on logic at all. We say of them, ''They lack common sense.''

The simple fact is these people have never learned to *cross-examine their day-dreams.* They try to carry every notion and impulse to the limit. Insanity is simply day-dreams that are not cross-examined. By this definition, we are all more or less insane. We carry out many foolish impulses, without giving them proper cross-examination, without thinking them through, or else getting an expert to think them through for us. However, most of us, in the ordinary conduct of life, escape being called insane because we do inhibit an enormous number of random impulses. We take our insanity out in other ways; we read novels and melodramas and see motion-pictures, because we there see our day-dreams fully carried out. It is excellent relaxation but will not work in practical life.

A friend of mine, of this hair-trigger type, adopted a unique plan. He found he was trying to carry out too many of his passing impulses. When an idea of importance, one demanding action, struck him, he would write his idea out, lay it on his desk and assume that it was on the witness-stand. He would then subject it to a merciless cross-examination. If it got through the "third degree," he called the idea a good one, and adopted it for practical use. This man was formerly called a "dreamer." As we say of so many people, they said of him, that he was "full of grand ideas, but lacked ballast." However, by this simple process of cross-examining his ideas and impulses, he became a very strong executive. An executive is simply a dreamer with a good balance wheel.

A young industrial engineer from one of the eastern schools of business administration said to me recently, "I have just come from the survey of a ten-million-dollar concern that for years paid one hundred per cent. dividends. Then they dropped to sixty, then twenty, and now we are trying to save them from bankruptcy.

"The trouble was very simple: the stockholders thought their large dividends were due to a brilliant manager. They were not. They were due to lack of competition. Without competition, this man could carry his wildest dreams to the limit. Once he built an extra plant complete so that, in case one burned down, he would have another one ready!

"We promptly fired this man, and are putting one in who dreams just as big dreams, but cross-examines them before he puts them into effect. I think he will save the firm, but it is going to be a hard job."

So I think the first class of people that Jesus had in mind are those who plunge into their plans without due examination of them by their own mental powers. And the second class to which I think his saying will apply, are those who try to do all their own thinking when it would save them money and effort to secure some wiser head to do it for them. Old John Crosby went through a hard experience and years of loss before he learned this simple lesson. We find this very thing going on about us every day.

Not long since, I saw a man die on the surgical table.

"Too late!" murmured the surgeon sadly. "If he had only come two months earlier, he would now be back, supporting his family."

"It is not surgery that kills people," Dr. William Mayo is reported to have said recently; "it is delayed surgery."

We have an appalling loss of life in the United States every year from automobiles. An enormous number of these accidents, as Dr. Walter V. Bingham, the psychologist, has shown by extended research, are due to allowing people to drive, that is, do their own thinking, when they have no right to do anything of the kind. They are a constant danger on the highway because they do not know they ought not be permitted to think for themselves in handling a steering-wheel. The public ought to see that they have some much safer person do their thinking for them.

But even this appalling loss of life, I imagine, is not nearly so great as the loss and suffering and poverty due to the people who try to do their own medical thinking instead of having an expert do it for them. Not long since I had occasion to drive into the country where Mrs. Wiggam wished to negotiate some quilting to be done by a farmer's wife of her acquaintance. During the visit I remained back in the kitchen talking with the farmer by a dim kerosense lamp, while a pot of coffee simmered on the stove. I soon discovered he was suffering from great pain in his stomach and intestines. He told me a long story of how this had been going on for years, until now he was unable to work, or sleep or eat with any comfort, and his wife had to take in sewing and washing to help keep the home. I asked him if he had taken any medicine and in reply he showed me a row of bottles of various kinds of "family remedies" which, if the claims on their labels were true, would cure practically all the ills of mankind.

Finally I said: "What do the doctors say is the cause of your trouble?"

"Oh," he groaned in reply, "I ain't seen no doctors. If I did, they would be sure to find something the matter with me!"

This man is not one whit different from the people a great banker had in mind when he said to me recently, "Oh, if people would only tell us their troubles sooner!" And doctors, lawyers, engineers, executives, city planners, psychologists, educators and genuine experts of every description are everywhere uttering the same pleading exclamation.

If everybody could be taught the simple mental habit of knowing when not to think and when to get an expert to do their thinking for them; if everybody could, by some sort of educational machinery, be put through Old John Crosby's experience—brought to "labor under conviction" of educational sin, and later accept "salvation by grace" of open-mindedness, as Crosby did—there can be little doubt that the world would be ushered into an abrupt millennium.

CHAPTER VI

He Never Laughs at New Ideas

Education, I think, is much more a matter of attitude of mind than it is a mere assemblage of facts in a man's head. It is not so much the facts a man has lodged in his cranium but what he can do with his facts and what his facts do to him, that determine whether or not he is educated. If I should print here all the attempts to define education and what it ought to do to a man that have been spoken or written by great and thoughtful persons, it would more than fill this volume. However, among the host of definitions, the one I like best is one given by Everett Dean Martin, Director of the Peoples Institute of New York: "Education is the development of those mental habits that enable a man to meet adequately concrete situations."

I take it that Martin means the chief result of education should be to give a man the ability to handle facts, to win them to friendliness and service in his own life, and thus give him true intellectual power under adequate control. In other words, education should enable a man to solve the problems that life sets for him with *progressive profit* to himself and his fellow men. It should make the reaching of right solutions so habitual and easy that every day he stands upon the shoulders of yesterday and thus looks out across broader landscapes into wider horizons. This notion fits in preciselywith Dean Gildersleeve's definition of education when she says, "To be educated means that your own special powers have been developed and trained so that you can exert them for the good of mankind and your own satisfaction.'' All this indicates very strongly that education ought to be of some use to a man. Many people have heads full to bursting with facts, but they have never found out how to make them useful to themselves or anybody else.

If, then, we look at education in this way, and if the considerations I have so far advanced have any suggestiveness, it seems to me it makes the next mark of an educated man so obvious that I hesitate to mention or try to emphasize it: *An educated man never laughs at new ideas.* This may be a deeper indication of true education than at first blush you might think. It is a pretty short step from laughing at ideas to trying to suppress them and persecuting their creators.

Such laughter may be a costly business. The story is told that many years ago, the elder Sothern, famous creator of the stage character, Lord Dundreary, arranged a dinner party one evening for a number of his friends. He explained to them that he had invited a young man who was ''sort of cracked'' about an invention he had made, by which he claimed to be able to talk at a distance over wires. He warned them that the young man might want to interest them to purchase stock in his company, but urged them to pay no attention to him, as it was pure moonshine.

It is needless to add the young man was Alexander Graham Bell, and the ''moonshine invention'' was the telephone.

Every one can recall instances in his own life when laughing at ideas has been an expensive amusement. I remember that many years ago, when I was a police reporter on a Minneapolis newspaper, I met a friend on the street one day who told me he had invented an adding machine. He said if I would give him twenty-five dollars he would give me a half-interest and he was sure we could make a fortune. I laughed at the idea. Shortly afterward a big corporation bought this half-interest for a quarter of a million dollars!

It is said, that one night many years ago, two young men came before the City Council of New Orleans and presented a new theory for safe-guarding the public health. They were very quiet young men because they knew what they were talking about. They were biologists and they told the City Council that if it did not immediately appropriate two hundred thousand dollars to kill the mosquitoes around New Orleans, there would be an epidemic of yellow fever. The aldermen laughed at the idea. But the epidemic did come and before it was over, one of those scientists was dead, three of the aldermen who did the laughing were in their graves, and it is said that it cost the city of New Orleans not two hundred thousand dollars but fifty million dollars and more than a thousand lives.

Of course, we are all getting more cautious about laughing at scientific discoveries and inventions than we were even a generation ago. People are much more ready to accept the possibility of doing marvelous things by machinery than they used to be. To this extent, they are becoming educated.

But it has its pathetic side in that we are losing our capacity for wonder and surprise. As a case in point, I recall, when I was a boy, back in 1893, going to the World's Fair in Chicago. It is hard for the younger generation to realize the joy and glory that thrilled a young man in those days who had never traveled from home, upon going to a world exhibition of the triumphs of art and science. In that day, a man in southern Indiana who had been to Chicago was an object of interest and had many wonderful things to relate to the natives who were not fortunate enough to be so far traveled. We could scarcely believe his descriptions of the Masonic Temple, *twenty-two stories high,* and the Auditorium Hotel with a thousand rooms! When any one, especially a woman, went to New York, the people got up a special meeting when she came home to have her give a talk on "my trip to New York." One man and his wife in the neighborhood had been to Europe and they were regarded with awe. In those days George M. Cohan could with some justice refer to all the United States west of the Hudson River as "the Provinces."

But a little incident happened while we were at the World's Fair that illustrates perfectly the attitude of mind into which our younger generation has grown, through no fault of its own, but because of the sheer multiplicity of scientific triumphs. The youths of to-day accept them all with a blasé nonchalance that, to us older folks, is in itself surprising and disconcerting. In our party at the Fair was an old neighbor lady who was one of the most devout Christians I have ever known. I doubt that she had ever thought of a "bad word" in her whole life. We saw so many wonderful things that in time our sheer capacity to be surprised literally wore out. However, on the evening of the fourth day I discovered something that aroused my interest, and I came rushing in to tell this dear old lady to come into the next building to look at it. I exclaimed, "Auntie, you just must not miss seeing this or you will always regret it." She looked up at me wearily from a cup of tea and said with jaded unction, "Sonny, I wouldn't walk across the street to see the Kingdom of God!"

Surely since then the world has moved, for we live now in a time when I truly fear if the Kingdom of God or even the Kingdom of Darkness should suddenly open before our young people it would hardly occasion any surprise. As a show it would probably be a "flop."

The younger generation would probably "be nonchalant" and reach for something or other that might titillate the nerves a little more directly and keep life more on edge. If people nowadays do not laugh so derisively at new ideas, especially new mechanical devices and chemical processes and discoveries, it may not be due so much to any profound scientific education as to the mere fact that their surprisers are worn out. It takes half a dozen magazines published monthly, besides hundreds of technical journals, merely to announce and briefly describe the new scientific discoveries and inventions.

However, with all this, it is a grave question whether the masses of men are really any wiser than they were before. Wisdom is an extraordinary thing, a rare phenomenon in nature. It comes from only one place, the heads of educated men. And educated men are the only open-minded men we have. We have no means of knowing for certain whether our vast expenditures for public education have increased the number of such heads or not. I think it has but I really do not know. While people do not laugh perhaps as much as they did, even a short time ago, at startling chemical and physical discoveries, yet they still laugh as much as ever at the truly great new fundamental ideas about life and about themselves. It is a grave question whether or not men have really learned anything. I think they have, I try to believe they have, but I have no census figures to submit in proof.

I know, for example, people laugh at the laws of heredity when applied to human beings about as much as ever. They still go on marrying without knowing one another's pedigree and producing unhappy, neurotic, weakly, defective children almost as unwisely as ever. They do this in the face of the plain fact that by applying these same laws of heredity, man has remade almost the whole domestic plant and animal world. Applications of heredity have formed the basis of great industries and civilizations, added incalculable wealth and happiness to human beings and changed the whole course of human history.

It is a fact that the biologists are literally inventing new plants and animals in their laboratories every day. Burbank's creations have received an immense and deserved vogue, but a great many much more scientific plant and animal breeders than he have produced creations as valuable and as marvelous, although not so widely advertised. (Burbank was an artist and not a scientist.) Indeed, these experts can almost build a plant or animal to order while you wait. They can put the ears on the corn stalk up so high the farmer can not reach them, or down so low he would break his back in gathering them, or at some in-between point that meets his convenience. One biologist, Leon F. Whitney, of the American Eugenics Society, has mated hounds that bay on the trail with several types of silent trailers such as bloodhounds and beagles. The invariable result is that the offspring inherit the general characteristics of the silent breed. We thus get a dog that is worthless for any purpose. This, I feel sure, is the first absolute experimental demonstration that has ever been made of the inheritance of a mental trait.

It seems the experts can build a hog that goes all to fat or one that goes all to lean, or one with the stripes running east and west or north and south, as it may please the passing demands of the market. In fact one reporter, with a Jules Verne imagination, has stated that a biologist in Alaska has brought out a watermelon with fur on the outside! Perhaps next they may develop a melon at the tropics provided with refrigeration. When we see the fact that mammals have practically achieved this feat and are able to equalize their body temperature in all climates, and see the highly ingenious devices for preserving their species that even plants have negotiated through the processes of evolution, such waggish suggestions may not be so fantastic after all. In recognition of this Congress has just passed a bill permitting plant breeders to patent their inventions. No doubt this will soon be followed by a bill to permit the patenting of new animals. Surely if the man who invented the first mule or the first milch cow could have drawn royalties on his device he would have reaped a fortune. We already accept as ''necessities of life'' inventions that far surpass the most extravagant dreams of Jules Verne's brilliant imagination. And the inventions of the biologists in the plant and animal world are apparently only beginning.

But when we try to induce people to take the most cautious first step in applying these laws to their own matings and the births of their own children, they laugh at such ''highfalutin ideas''; they get up anti-eugenic societies, ''view-with-alarm organizations,'' thunder from the pulpit against it, and pass laws to prevent the simplest facts of organic nature being taught to their own children.

It shows how hard it is to teach people anything, except merely how to read and write and count money. Nearly everybody can count money, but culture and wisdom—they are so much deeper, so much more valuable than money—it is hard to induce people to accept them, even when they are offered at public expense. People laugh about as much as ever at the great new ideas of liberal religion, of intelligent morality, at more scientific relationships between parents and children, at ideas and ideals of marriage based upon truer understandings of the emotional complexities of human nature and the newer revelations of man and woman as biological and physiological organisms; they still laugh at experimental education, at suggestions for sounder social and economic organizations, in short, at the application of science, not to making them richer, but to making them better and happier beings. The fact is, men have always laughed at their real saviors and stoned their true prophets.

They laughed at Socrates when he tried to teach men a new way of reasoning fearlessly even about morality and life and the gods, and they compelled him to drink hemlock, and, as Glenn Frank said to me one time, "In that one cup of hemlock, they drowned a whole civilization."

They laughed at Lincoln when he said a nation could not live half slave and half free; and it cost the lives of a million men, untold treasure, the destruction of a great and noble aristocracy, the crushing of a fine culture, and a generation of misgovernment in order to prove that the laughers were wrong.

Savonarola and his fundamentalist followers laughed at the mental enthusiasms, the artistic yearnings, the scientific ardors of the Renaissance; and just when it seemed a new door was opening before men's minds to let them again, for the first time since the Greek days, into the sweetness, gentility and zeal of intellectual freedom and open-minded curiosity about life and nature, they deliberately shut this door in the eager faces of mankind. Martin Luther and his "Reformers" in the north, who never had any idea of reforming anybody into the sweetness, elegance and delicacy, the power, robustness and mental discontent of true liberal culture and fearless curiosity, likewise laughed and derided this glorious promise of humanistic emancipation.

The same people laughed at Darwin when he revealed the hitherto impenetrable mystery of living forms, the most emancipating generalization that had come into the world in two thousand years.

These same people, if we can not succeed in educating them, will go on laughing at ideas and persecuting their creators until the end of time. A great many people talk about the "conflict between science and religion" as though it were something new. It is as old as the human mind. It is merely the present-day phase of the world-old battle between the tight-minders and open-minders, the students of ideas and the laughers at ideas, the people whom you can educate and the people you can't educate. They are simply two branches of the human family. They always will be in conflict, unless perchance education may in time become such a true science that the curse of tight-mindedness shall never even have the opportunity to cast its blight upon the mind and heart of the growing child.

It is only when children are brought up in this horror of tight-mindedness and absolute courage of open-mindedness, when they are taught to look upon life with wide open eyes, with vision unobscured by theocratic institutionalism and its ready-made precepts on the one hand or by mystical vagueness on the other, that we can hope to lead men into a life of joy and sprightliness, of free and open social intercourse based upon the facts of man's nature and his place in nature. Men *must organize life for happiness,* and they can now begin to do it because science, as never before, has given them the required knowledge and the necessary instruments.

We know far more than any race ever knew of the inner sources in man's nature from which happiness springs; but as long as either the theological or the mystical views of life and nature are allowed to touch the growing mind of the child, all the vast resources of science, outside those of mere money-making, speed and physical comfort, for bringing peace and adventurous joy to men in their inner lives, are thrown away. It is only when no hand but that of the brave and free scholar in the scientific study of man and his history, his morality, his conduct, his relations with his fellow men is permitted to touch the child, that we can hope to usher in a time when men will neither laugh at new ideas nor crucify the only emancipators who can ever break their intellectual shackles.

CHAPTER VII

HE KNOWS THE SECRET OF GETTING ALONG WITH OTHER PEOPLE

WHAT does it matter if you gain the whole world and other people do not like you? What do all the academic diplomas and degrees matter if you can't get along happily and effectively with other people? You may know all the philosophies, all the arts and sciences but, as Professor James insisted, *the human relationships are the main thing.* The ability to deal with others, a winning sensitiveness to the rights and feelings of your fellow mortals constitute the difference between learning and refinement, between information and culture, between knowledge and social power.

One can hardly read such a book as Professor William Morton Wheeler's *Social Life among the Insects* or the books of Fabre, Maeterlinck and Major Hingston, without the depressing thought that if man had developed as intense and fruitful cooperativeness as have some of the insects, we might have gone by now to far greater heights of achievement than we have in societal evolution, economics and politics. When I see how little attention many people, with heads crammed full of knowledge, pay to the art of getting along with other folk, I often wonder if Professor Wheeler was not over-optimistic when he said that he "sometimes believed human beings were more intelligent than ants." Perhaps they are on the average in "general intelligence"—if there be such a thing, and I imagine there is—yet, every day you meet people who have money in their pockets and knowledge in their heads, who surely would fall below the ‘‘best people’’ among the ants in getting along intelligently with the members of their tribe. And such people, however learned, can not pretend to be educated.

We can truly learn here a great deal from the professional politician. We can not learn much from him about politics or government, but we can learn a great deal that is worth while in humanistic education from his easy and genial contacts with his fellows. It is not necessary to go about with the ‘‘glad-hand’’ always out, or with a chronic ‘‘Smile-damn-you-smile’’ motto hanging out, or with a continuous performance of trying to ‘‘put oneself over’’; but nevertheless the ‘‘low-brow politician’’ does really have something at this point to teach the high-brow academic who has not learned that learning is made for life instead of life being made for learning. They are both lacking in culture, one in the cultural values of knowledge, the other in the cultural values of life.

I consider this to be such a highly important thing in a man’s education that I hardly believe I can overemphasize it. This is partly because of the sheer preciousness, piquancy and flavor of the human relationships, and partly because of their cogency and significance in making a wholesome, inspiring and effective human being.

If you will just reflect upon one or two examples that have come under your personal observation, I think it will aid you greatly in absorbing in a personal way the importance of this phase of education. I am thinking just now of two friends of mine whom their colleagues have often assured me they considered of about equal intellectual ability and of about equal rank in the importance of their contributions to science. They are both in the same field of science and I imagine would easily be ranked among the five hundred, possibly among the one hundred, most important scientific men living. Yet one of them is almost unknown except to men in his own field of research. He is sour, crabbed, always has a chip on his shoulder, is always in difficulty with his faculty colleagues and at the age of fifty-five is very much of a misanthrope and a generally disappointed man. He feels his scientific work is not appreciated. As a matter of fact it is; important scientific work can scarcely escape being appreciated. It is he himself who is not appreciated, and the reason lies almost wholly within him. His intimate friends assure me that this inferiority feeling dates back to his childhood. Most inferiorities do go back to early experiences. This man's father always sat upon him. The boy was brighter than his father, and in order to preserve his own position and dignity the father tried to make the boy feel as unworthy as possible. However it may have originated, this feeling has colored his whole life and has been an endless drawback to his personal influence.

On the other hand the second man is simply a power on earth. The devotion of his students is almost idolatrous. Wherever you find one of his students in America or in foreign countries, they swear by him. Students have flocked to him from every land and clime. The first man has but a handful. The second man has made himself an effective public speaker and has developed a cordiality and a heartiness of manner that instantly wins your friendship. This may be to some extent natural. In the present state of psychology it is impossible to say how much of our personal traits, particularly our social qualities, are inborn and how much are acquired. One thing at least is probably not inborn in this man, namely, his enormous interest in his students and the readiness with which he praises good work either in them or in his colleagues. In his writings, he is constantly acknowledging his indebtness to this or that student for his ideas. He goes out of his way to give them credit. The humblest student can always come to him and be confident of receiving friendly and thoughtful counsel. The first man seems to live in anguish lest his students get credit for his ideas. He never mentions their work if he can help it. He is not the only research leader of whom this might be said, but I am happy to say it is not a very common fault among the scientific men who really have ideas.

I have watched these two men for many years and I am convinced that a vast deal of the difference in the range and extent of the respective influence they exercise throughout the world is not intellectual ability or scientific achievements, but is largely this thing of "get-along-ableness," personableness, what psychologists are beginning to call social intelligence or social capacity.

It is only recently that the psychologists have begun to study this side of the human make-up. They have found it worth trying to measure. Doctors Hartshorne and May have done amazingly well in their efforts to measure cooperativeness in little children. Many intelligence tests and ratings of temperamental and character traits give us, to some extent, a rough appraisement of one's capacity for getting along with others. Professor Donald Laird, of Colgate, has devised some tests that, with his permission, are appended to this chapter, which are very useful in estimating the degree to which other people like or dislike you; and this is surely one of the best measures of your get-along-ableness with other people. The encouraging thing is that you can almost immediately work great changes in yourself in this direction.

In this same field, Professor Fred A. Moss, of

George Washington University, has devised some highly ingenious tests for measuring social intelligence. While, technically speaking, it may be they are to a considerable extent tests of capacity to judge social situations adequately, yet they are proving very valuable as an indication of your ability to understand the other fellow and thus get along with him. If you should feel yourself deficient in general social intelligence, since these tests are not devised for profit, I feel free to say that I believe you could hardly expend the small fee necessary to cover the cost (about ten dollars, I think) to better advantage than to send it to the Psychological Department of George Washington University and try these tests on yourself and have the Department score them for you. I know many young people, especially, to whom I think this procedure might prove worth a small fortune. I say this because I believe psychologists would generally agree that one's social traits, when they are once called to one's attention, can be greatly improved by self-analysis, study and practise.

When I see how sadly so many young men and woman getting out of school and starting upon their business or professional careers, hurt themselves by lack of tact, lack of social judgment, I often think I should like to put a department of social intelligence, tact, good manners and get-along-ableness in all our schools and colleges. I think there is only one such department in any school or college in the world. This is under Professor Hoopingarner and his colleagues in New York University. I think I should appoint as one of the first heads of such a department, my friend, Dr. David Mitchell, consulting psychologist, who lives a couple of blocks down the street from my home here in New York. He is president of the Consulting Psychologists of New York State, and former chairman of the Division of Clinical Psychologists of the American Psychological Association.

I should appoint Doctor Mitchell for this job for three reasons: he often tells me very candidly his study of this phase of education has greatly helped him; I also happen to be more familiar with his work than that of any other psychologist or any psychiatrist; and furthermore, he has devised a number of ingenious rules of procedure which, I think, are about as important in this field as were Professor James' famous rules of habit formation in the field of self-control.

Of course, one can find somewhat similar rules both for self-control and getting along with others in numerous excellent books that have been published in this field within the past few years. Some of them are extremely suggestive and helpful because they are written by authoritative students. Some of them, however, are extremely harmful, especially those that lay too great emphasis on "sex complexes" and that discourse vaguely, verbosely and mystically about the "sub-conscious," "unconscious," "subliminal self," "multiple personality," "functional disintegration," "clairaudience," "materializations," "crystallomancy," and similar verbal descriptions of indefinable mental states, balances and imbalances. Psychology, particularly the psychology of personal adjustment, has succeeded patent medicine, two-headed calves, Barnum's "egress" and other humbugs as the new field of quackery. Even the medical profession is not altogether free from this charge. Any physician who reads a few books on abnormal psychology and learns some of the Freudian and Jungian phraseology can set himself up as a "psychiatrist." There are many splendid and profoundly trained medical psychologists and they one and all deplore this situation in their own profession.

With these considerations in mind I feel that I should deprive the reader of some genuine methods of self-education—the only education that amounts to anything—if I did not include here a few of Doctor Mitchell's rules for getting along with other people among the marks of an educated man. The mere verbal statements are largely my own but the ideas are borrowed. I take comfort from this borrowing in the remark which some one has made, even though it be a considerable exaggeration: "The scientist advances knowledge, his interpreter advances the world."

The first of these rules for getting along with other people is:

> *You must learn that human conduct is predictable.*

If you doubt this, just try calling one man a liar and another a scholar and a gentleman and see the different types of response you get from each. Solomon said, "A soft answer turneth away wrath." You can absolutely predict that it will.

The human mind may not be a machine, but it acts like one. "The successful relationships of people, one with another," Doctor Mitchell said to me, "are largely made possible by the very fact that in many cases we can predict the responses that other people are sure to make to what we do."

To illustrate this, here is a young man, let us call him Jim Darby, trying to adjust his relationships with his wife. Jim reads a letter he has written to her which runs as follows: "Perhaps you will consent to put your pride and egotism in your pocket, and act like a big grown-up woman, instead of a spoiled baby."

"Do you ever speak to her like that?" inquired the doctor.

"Oh, yes," replied Jim, "and she gets fearfully peeved; but if we are going to get along I've *got* to make her see——"

"Just a moment," replied the doctor. "You are making the same mistake made by millions of people, equally sincere in their efforts to reach a happy adjustment. Of course, what you say of her may be true. But you forget there are some programs that simply will not work because they are bound to produce an antagonistic response. You want cheerfulness, cooperation, affection. The human mind is so built that you can not get it in that way. There are certain words and methods that arouse irritation, and others that rouse affection, and you can look into a dictionary and find which is which. Why not choose the right words instead of the wrong ones? You call the other person unreasonable. Does a toreador wave a red flag in front of a bull and then say it is unreasonable for the animal to become angry? It may be lacking in rational thought, but a large percentage of our acts lack this. You know what will happen just as certainly as you know the electric bell will ring when you press the button."

Needless to add, this young man wrote a letter containing the opposite kind of words and inevitably he received the opposite kind of response. A short time later he appeared in the doctor's office with his wife, both of them happy and smiling, and Jim exclaimed, "Doctor, isn't it just too bully for anything!"

I am not preaching here any silly optimism or be-good-and-you'll-be-happy doctrine. I am pointing to some of the profoundest discoveries of science, the results of long experiments in biology, chemistry, psychology and physiology. Yet we see people who claim to be educated, violating this simple operating principle of the human machine every day. Parents violate it, teachers, bosses, executives, public officials, even international statesmen violate it. But they belie their assumption of being educated persons when they do. It is a very homely doctrine, that is true, but if parents and husbands and wives had considered it as much a part of their education and had devoted as much time to it in school as they did to learning arithmetic, history and grammar, this world would be well-nigh transformed. An immense proportion of divorces would never occur, and juvenile delinquency would be incredibly decreased.

The second maxim that emerges simply expresses more clearly the method for making the first one effective:

> *Watch exactly what the other fellow does in response to what you do; in other words, study without prejudice or emotion how he reacts to your behavior.*

Don't fool yourself with any fanciful notions as to what the other person *ought* to do. It helps if you will set down on a piece of paper in two columns what he actually does when you do so and so. You will be amazed at how soon you are able to "get on to his curves" and say and do those things that bring forth cheerful cooperation.

As Doctor Mitchell points out, people are all the time losing their jobs because they fail in this watchfulness. Here is a young man who comes to the doctor, after having been fired from job after job, and the doctor finds he had a habit of telling his boss that he was dead wrong, and disagreeing generally with his policies and commands. He did not know he did this—people rarely do know it. They make trouble for themselves all their lives by their failure to see that what they do is setting up irritation in others. They have not learned the simple technique of predicting human conduct, and just to that extent, they are uneducated people.

A third excellent rule that aids in the technique of conduct is this:

> *Deliberately overestimate the value and importance of the other fellow's point of view.*

This maxim does not refer to those fearsome people who are constantly exaggerating the attitudes, especially what they think are the attitudes, of superiority in the people about them. It means that many people need to overestimate deliberately and intentionally the other person's side of any matter on which there is a difference of opinion, in order to keep from exaggerating their own point of view and thus getting into trouble.

The fourth rule is:

> *You must be genuinely yourself and not try to play a dramatic part or put on airs or be somebody else.*

"You can't get along with other people," says Doctor Mitchell, "if you are trying to be somebody else, or be better or more important than you really are. Egotism and self-exaggeration are simply forms of fear. You are afraid you will not be appreciated and your importance recognized, so you exaggerate it and tell people about it. Every man who is not popular should ask himself squarely, 'Am I absolutely the goods I pretend to be? Isn't there some little pretense about me? Am I not at times just a bit playing a part, putting on a little dramatics?' If you are, you are in for trouble."

A case that illustrates this is that of a young man who brought the doctor forty pages of manuscript in order to set forth the grand work he was doing to uplift the world and bring God into everybody's life. Tactful probing revealed that he had no more interest than you or I have in improving the world, but since he had been fired from a number of jobs, all this gush was to impress his wife, his fellow workers and his boss with what a valuable person he was. He had been fired just because of this exaggerated notion of his own importance.

The world is full of people who are in some way playing to the galleries. They deceive nobody but themselves. The tragedy is that it is pure self-delusion and that they don't "tumble" to it even when they are tumbled over. The crux of the difficulty is, *they have never learned how to analyze themselves.* This has been made much worse recently by the popularity of pseudo-psychology and so-called psychoanalysis. People imagine they have to go through some mysterious process of burrowing into the "unconscious" and "subconscious" in order to understand themselves. I have even read in one book on psychoanalysis that it is necessary "to siphon out the contents of the unconscious." As one psychologist has suggested, this is purely a hydraulic figure of speech. There is no drainage system—although there ought to be one—in the mind. A just analysis of oneself can be obtained with much less fuss, feathers and pictorial psycho-buncombe.

A fifth most excellent motto is:

> *You can't get along with other people if you carry old grudges.*

If there are two or three people with whom you can't get along and against whom you feel you have a genuine grievance, it may be it is their fault; but if there are half a dozen or a dozen such people, you can be very sure it is your own fault. You are keeping alive emotions and judgments about people that a healthy point of view would long ago have dismissed from memory.

On this point, Doctor Mitchell has frequently said to me: "I often have people in my office here who will tell me about some difficulty with the boss or with a fellow workman, or it may be a difficulty between husband and wife, that occurred months, or even years ago, with as much anger and irritation as though it had occurred just around the corner before they came in. In fact, if you find yourself thinking of some old quarrel, or some insult to your pride, whether real or imaginary, that occurred longer ago than yesterday, and you find yourself clinching your fists, setting your lips, gritting your teeth, and saying to yourself, 'I'll get even with that fellow some time,' it is high time to take a good laugh at yourself. You need to get a new estimate of yourself and the other fellow.

"A good way to get rid of this feeling is to write down *exactly* what he said and what you said; don't camouflage or fool yourself, but put down the *exact* words and try to see yourself in proper perspective. You may have received a real injustice, but 'laying' for the other fellow—well, life is too short for that kind of thing. It gets you nowhere and it is constantly educating your emotions and nervous system for future trouble. One of the best ways to avoid trouble is *not to set your nervous system all ready to go off* with an explosion at the slightest opportunity."

CHAPTER VIII

HE KNOWS THE SECRET OF GETTING ALONG WITH OTHER PEOPLE

(Concluded)

THE sixth maxim for adjusting our lives to the lives of others that emerges from this field of clinical psychology is the following:

> *If you interfere with other people's habit responses, you are going to set up irritation.*

I remember one evening while down at Doctor Mitchell's office working over a lot of cases from his files, the clock struck midnight, and I jumped to my feet, without thinking of course, and exclaimed, "My, my, I must go."

"Now," said the doctor, "that is what we call a habit response. A mature human being is a bundle of such habit responses, or habit systems." The doctor went on to point out that a large part of our troubles comes from the mere fact that we fail to recognize other people are built the same way. We do not like our habit responses interfered with. As my jumping to my feet illustrates, we have grown up with the habit ingrained in us that midnight is the time to separate socially and go to bed. Take another example: If I ask you how many nine times seven are, you answer instantly, "Sixty-three." You do not have to think. We do very little thinking in the course of a day. Our lives are carried on in the main automatically by these habit systems. Education in fact is the building up of useful ready-made habit responses. It is both a blessing and a danger. The danger is that if you cross other peoples' habit responses it annoys them, induces emotional strain in them, throws them out of gear. Since this is a simple law of nature it is obvious that the happiest, most effective course is to work with other people's habits instead of against them.

This principle goes deep into every one's life. It is something you have to watch if you are to be an educated, agreeable, influential person and personality. For instance, you get up in the morning and can't find your slippers; you are out of new razor blades and have to use a dull one; you are late to breakfast and your coffee is cold; you miss the regular car to your office and have to take the next one; you jump on the car and find you have forgotten your newspaper. By the time you get to your office you are in a stew—all caused by little interruptions to your habit responses. Now, if you do not watch your step, *you are going to take it out by interfering with other peoples' habit systems* and you may have the office out of sorts for a whole day.

The practical counsel that emerges from this course is that if you want to become an educated man or woman you must make it one of your own great habit systems to study the habit systems of other people and, unless it is a necessity, not to interfere with them. This principle has large implications in social education and practical legislation. For example, how hard it is to get people to obey traffic regulations. They do not like their go-as-you-please habit of speeding along the road interfered with. How hard it is to get people to come in when the curfew rings, or to obey Sunday blue laws, or any kind of blue laws for that matter! Many a king has lost his head, and many a government has been upset, because of interference with the established habit responses of the people. It is a psychological principle that legislators neglect at their own peril. Contempt for its workings was the motive of the phrase, "The public be damned." Taking it into account is the origin of another maxim that has proved worth millions: "The customer is always right." Recognition of it is the basis of tolerance.

Another principle of great service, the seventh, I believe, is:

> *Bright people must learn to be tolerant and patient with slower people.*

This is merely a continuance of the previous precept. It is particularly a counsel of perfection for foremen, executives, teachers and professors. It is one of the most difficult virtues in the world for quick, bright, fast people to practise. But failure to recognize it as a basic fact of the human machine keeps foremen and managers in constant trouble. Naturally a foreman is likely to be brighter than the people under him. A college professor is (theoretically) brighter than the average of his students. If the executive in any position can not be indulgent toward slowness, he not only makes trouble for both sides but he greatly reduces the effectiveness of those under him. Trying to hurry naturally slow people is a foolish process. It hurts and irritates. The duller a man is, the less capacity he has to hurry. He can't hurry. You will never make an executive or an inspiring teacher or leader of any kind unless you are able to recognize when those under you are going at their best natural speed. If you push them beyond their limit—not your limit but theirs—there is going to be a break. As the previous principle was the basis of tolerance, so this one is among the great factors of leadership.

The eighth rule is one that I imagine you never thought of, yet Doctor Mitchell's work has shown that it is basic in the great art of getting along with other people. It is the very heart of the growing child's effort to fit himself into the world around him and properly appraise and obtain his own place of importance. It is a rule that is nearly as large as life itself. If parents start the child out with wrong notions in this direction, they are setting up a whole world for that child that is basically out of proportion. It will plague him to his dying day and greatly decrease the number of mourners at his funeral. That rule is:

You must learn to compare yourself frankly, fairly and honestly with other people.

It is here that psychology can render one of its most powerful aids to our lives. Few parents can do it with themselves or, at least, very few do do it, and consequently few children learn it as they grow up. Few parents will even get down off their dignity and egotisms sufficiently to compare themselves frankly and honestly with their own children. They will not compare the children honestly with one another. As a result, the children get distorted notions about themselves and about their brothers and sisters.

I have seen more family ruction and general irritation from this cause than from any other. Very often parents have a child distinctly brighter than they are. In order to preserve their own importance and authority, they sit down on it, nag it, try to make it feel that nothing it ever does is worth while. This is often especially notable if they have another child that is very dull. Sometimes the attitude is altogether the reverse, the dull child is sat upon and the bright child praised for everything. The complex works in all sorts of ways, and unless it is sensibly, understandingly and very tactfully faced and handled, the children get lopsided ideas of themselves and of one another, and they carry these distorted personality pictures out among their gangs and classmates. Unless heaven is kind enough to send them a teacher or an employer or, still better, a psychologist to *reeducate* them, they will never in a hundred years become truly educated people.

I have searched through psychology,—through thousands of volumes and monographs,—and I have found no method for achieving this phase of a man's education as practical as the simple Personality Comparison Chart that Doctor Mitchell has worked out and which he has kindly permitted me to publish with this chapter. It has been tried on hundreds of people and has been amazingly effective.

In order to simplify its use, let the doctor describe how he presents it to one of the people who have come to him for adjustment, whom, for convenience, we shall call Joe Gardner: "First," said the doctor, "I had Joe give me the names of fifteen or twenty of his closest acquaintances, one at a time, and asked him in a general way whether he thought he was better or worse than they were. After going through the list in this general way, we next got down to comparing his specific qualities with the same qualities in the others. Here are some of the questions I asked:

" 'You know William Johnson pretty well, don't you?'

" 'Yes.'

" 'Can you do the things he can do?'

" 'Most things I can.'

" 'What things are there you can do better than Johnson can do?'

" 'Well, I can remember names and faces better than he can. He is always asking people their names.'

" 'That's good. Do you think you have greater or less mental concentration on a problem than Johnson?'

" 'I think I am not quite so good as he is at that.'

" 'How do you compare in concentration with Van Sickles, Jameson and Howe?'

" 'Oh, I am better in concentrating on things than any of them.'

" 'There's Babcock. You say he's a whiz. How do you line up with him, say, in will power?'

" 'Well, I think he is a little better than I am—a little bit more determined.'

" 'How do you think you compare in honesty and frankness with all these fellows? Take them one at a time, and compare your openness, frankness and honesty with theirs.

" 'Let us take the question of loyalty to your friends and thoughtfulness for them and for the organization. How do you compare with each one in these respects?

" 'Can Babcock or Jameson or any of them cooperate better with their fellow workers than you can?'

"Now, after I had gone through this with Joe, and he had thought out honestly and fairly just how he ranked in a dozen or more details with fifteen or twenty people whom he knew well, it was both surprising and delightful to see how he had arrived at a new evaluation of himself. Instead of losing confidence, he gained confidence. Every one will. If you have an inferiority feeling, you will find you are not such a bad fellow after all. If you have a feeling of superiority—something that few people really have—it will place your feet on the ground with your fellow man. Of course, we often see people of whom it is said, 'They feel so superior.' As a rule, this is a defense device to cover up their fear of themselves and their feeling of inferiority. An honest comparison of oneself with one's fellows is the best cure for this that I know of, and is absolutely essential for a happy adjustment of one's life to the lives of others."

This comparison of oneself with others brings us naturally to the ninth maxim for personal and social adjustment and, I think, is one of the best definitions of education any one has given us. Doctor Mitchell himself states the rule as follows:

> *One of the chief elements in getting along with other people is to form an adequate judgment of your own capacities and a just appreciation of your own limitations.*

The Personality Comparison Chart will likewise aid you in getting an estimate of your capacities and limitations. I shall have occasion to enlarge upon this matter later, when I come to discuss how we build our personality pictures, intelligence pictures, ambition pictures and our after-selves. But we should recognize here, as Doctor Mitchell maintains, that the "aim of education is not so much to give people special skills as it is to give them a true estimate of themselves. It is almost as important for us to know what we can't do as it is to know what we can do; what we are not, as well as what we are; what we do not have, as well as what we have. It is only when we know what we are, and have, and can do, that we can compare ourselves accurately with other people. And scarcely anything in this life is more important."

The tenth principle of get-along-ableness is one that I have found more serviceable than almost any other:

> *You will make more friends in a week by getting yourself genuinely interested in other people than you can in a year by trying to get other people interested in you.*

"I can sympathize with people who fail at this point," said Doctor Mitchell to me on one occasion, as we sat with our feet on the fender before the smoldering logs in his workshop, "because when I was getting out into the world I had the hardest kind of a time learning cooperation and the art of friendship. I know just what nearly all these men and women, who come to me all out of adjustment, have been through. I left school when I was twelve years old, very unhappy and dissatisfied. I tried various jobs and had trouble with them all. Of course, I thought that the world was wrong and that I was misunderstood and mistreated; but I have found in later years, that it was I who did not understand the world and other people. I knocked about without progressing much until I was twenty-two and then went back to school and on through college.

"One of my greatest failures was that I tried to make friends by getting people interested in me instead of genuinely interesting myself in them. I have so many, many people who come to me with this same trouble, and because of it their lives are all out of kilter. Many people resort to all sorts of oddities, eccentricities and egotisms, solely in order to get others interested in them. People only laugh at them for these antics, or are annoyed, or feel sorry for them. But if you really want to be popular and have real friends, you must become genuine and sincere in your interest in other people's lives, the things they are interested in, their fortunes and misfortunes."

You can easily verify this in your own experience. You see it illustrated when some uppish city woman goes out to visit her relatives in the country. She determines to impress them, to show off, to air her importance. She is not interested in their homely country life and simple folkways. She constantly compares everything with what she has in the city—either real or imaginary—and when she goes away, she leaves behind her the hope she will never come again. A little tact would have enabled her to go home with a big heartful of love from those people whom, in reality, she desired to win.

This is the theme that Professor James treated with such sympathy and charm in his essay, *On a Certain Blindness in Human Nature.* I recommend it to the reader to read again. It is our blindness to the things that other people believe in and cherish, the values by which and for which they live that excludes us from becoming one of their most precious possessions, one of the realities they live for, one of the values that give to their lives—even in physical poverty—opulence, ardor and meaning.

Of course, all these maxims could be summed up in the one word, "tact," that old word that appears in all the languages of men, even the most savage, a word of infinite implications and applications. The Golden Rule is the most inclusive definition of tact that we have. You may carry the whole encyclopedia in your head, yet it may not give you tact. Some famous scholars do not have it and are in this important area of life just as uneducated as the rudest country swain. Many an unlettered country swain does have it, and in this great sphere of life he is a better educated man than the greatest scholar who lacks it. When Bobbie Burns went from his Ayrshire cottage to the drawing-rooms of Edinburgh, even Scott, with all his polish, was amazed and delighted at the country lad's innate urbanity. He won all hearts and was the social lion of the hour.

You can tell a man who has tact with his first words. For tact plays the same part in life that David Wark Griffith said "spark" plays in the art of acting. "If you have it, it doesn't make much difference what you do before the camera; and if you haven't it, it doesn't make much difference what you do before the camera."

True, the Golden Rule defines tact, yet, I believe, history has given us no more gracious expression of tact that is contained in those lines that some unknown poet composed to his lady-love during the Wars of the Roses, when the difference between a red and a white rose soaked England's soil with blood. You may recall some soldier of the Yorkshires, whose emblem was a white rose, being in love with a lady of the red rose, the emblem of the followers of Lancaster, ventured to send her a white rose as a token of esteem and accompanied it with perhaps the finest gem of tact in literature:

Should this fair rose offend thy sight,
Placed in thy bosom bare,
'Twill blush to find itself less white,
And turn Lancastrian there.

These lines are more famous, yet I think Doctor Mitchell has related to me an instance of tact as gentle and beautiful. A little girl of eight was violently opposed to being kissed, especially by an old auntie of hers. Not knowing this, however, the auntie, on going away one day, bent down and gave her a good round kiss on her cheek. The little one vigorously rubbed her cheek.

Noticing this, her auntie said: "Why, darling, I don't believe you like your auntie to kiss you. You were trying to rub it off."

"Oh, no, auntie," she replied, with the grace of a duchess, although she was quivering with anger, "I was just trying to rub it in, for fear the wind would blow it away."

"That's nearly the whole secret of getting along with other people," concluded Doctor Mitchell. "This old world of ours is full of friendliness and good will. If we think otherwise, and constantly make enemies instead of friends, the fault is largely inside ourselves. It is chiefly because we are trying to rub the kisses off, instead of trying to rub them in."

A volume of essays on the psychology of tact could not improve on this, and tact, mind you, that is, getting along with other people with grace, gentility and charm without loss of power and dignity, is an essential mark, and a very conspicuous one, of an educated man or woman.

HOW TO COMPARE YOURSELF WITH OTHER PEOPLE

	Bob J.	Alec M.	Bert. J.	Paul J.	Harry K.	Mort B.	Will J.	Jack B.	Joe L.	Tom J.
Originality	+	=	+	−	+	+	+	=	+	+
Adaptability	=	=	−	+	=	−	−	=	=	−
Honesty	+	=	=	=	−	+	+	+	=	+
Reliability	−	−	+	=	−	=	+	=	=	=
Will power	−	=	−	=	−	−	−	+	−	=
Leadership	=	+	=	+	=	=	=	+	+	=
Concentration	+	−	+	−	−	+	=	=	−	=
Intelligence	+	=	=	−	=	+	=	+	=	+
Perseverance	−	−	=	=	+	+	=	=	+	−
Initiative	+	=	+	=	=	+	+	−	=	+
Ambition	=	+	+	+	=	−	−	+	=	=
Self-control	=	−	−	+	=	=	+	=	−	=

"A chart such as this," says Doctor Mitchell, "will be a big help to you in 'getting a line on yourself.' (The man who filled out this one has, as you can see, compared himself with ten of his friends.) Make a similar chart for yourself, listing twelve desirable traits in the left-hand margin. Then rule off ten vertical columns, and at the top of each write the name of a friend. Now proceed to fill in the squares under the names, and opposite the listed traits. Use the *plus, minus* and *equal* signs to indicate whether you excel, equal, or fall below your friend in any given trait or quality. There are 120 judgments for you to form in filling in this chart—twelve for each of ten friends or acquaintances. The man who filled out the chart above found that out of the 120 judgments he excelled in 41, equaled in 50, and fell below in 29. Many charts show about the same result. If yours shows a great majority of *plus* signs, you either have a too high opinion of yourself, or you are associating with people who are below your level of ability. If, on the other hand, you find yourself with a great majority of *minus* signs, you are associating with people who can travel faster than you can, or you have an unwarranted feeling of inferiority. In any event, the chart, if carefully made and seriously studied, will help you make a happy adjustment of your life.''*

I can not but believe that the following questionnaire, worked out by Donald A. Laird, of Colgate University, may be helpful to us all as a means of social education. A great many men and women ruin their whole lives by some little personal habit of which they are unaware, and which a little analysis chart such as Doctor Laird's would have brought to their attention. This questionnaire has worked almost startling changes in the social habits of many students; and surely this is all in the direction of right education. Both this

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*A chart by Doctor Mitchell for getting rid of your chronic fears and anxieties will be found in the author's previous book, *Exploring Your Mind* (Bobbs-Merrill, Indianapolis and New York, 1928) in the chapter entitled ''What Are You Afraid Of?''

chart and that of Doctor Mitchell's on a previous page go to the heart of the problem of manners; and manners go to the very roots of a man's philosophy. They embody his conceptions of the amenities and values of social intercourse, and are the outward expression of his feelings for the rights of others. No civilization can possibly be great or beautiful without noble and distinguished manners.

GIVE YOURSELF A SCORE OF 3 FOR EACH OF THE FOLLOWING QUESTIONS TO WHICH YOU CAN ANSWER "YES":

1. Can you always be depended upon to do what you say you will do?
2. Do you go out of your way cheerfully to help others?
3. Are you careful not to exaggerate?
4. Do you resist the temptation to be sarcastic?
5. Do you refrain from showing off how much you know?
6. Are you able to keep from feeling superior to most of your associates?
7. Do you refrain from bossing people not employed by you?
8. Do you refrain from reprimanding people who do things that displease you?
9. Are you careful never to make fun of others to their backs?
10. Do you refrain from trying to dominate others?

GIVE YOURSELF A SCORE OF 2 FOR EACH OF THE FOLLOWING QUESTIONS TO WHICH YOU CAN ANSWER "YES":

11. Do you keep your clothing neat and tidy?
12. Do you avoid being bold and nervy?
13. Do you refrain from laughing at the mistakes of others?
14. Is your attitude toward the opposite sex free from vulgarity?
15. Do you refrain from grumbling about things which you can not change?
16. Do you let the mistakes of others pass without correcting them?
17. Do you lend things to others readily?
18. Are you careful not to tell jokes that will embarrass those listening?
19. Are you willing to let others have their own way?
20. Do you generally keep control of your temper?
21. Do you keep out of arguments?
22. Do you greet others cordially?
23. Do you refrain from talking almost continuously?
24. Do you keep your nose entirely out of other people's business?

GIVE YOURSELF A SCORE OF 1 FOR EACH OF THESE QUESTIONS TO WHICH YOU CAN ANSWER "YES":

25. Have you patience with modern ideas?
26. Do you avoid flattering others?
27. Are you careful not to gossip?
28. Do you refrain from asking people to repeat what they just said?
29. Do you refrain from asking questions just to keep the conversation going?
30. Are you careful not to ask favors of others?
31. Do you refrain from trying to reform others?
32. Do you keep your personal troubles to yourself?
33. Are you natural rather than dignified?
34. Are you usually cheerful?
35. Are you conservative in politics?
36. Are you enthusiastic rather than lethargic?
37. Are you careful to avoid slovenly diction and incorrect pronunciation of words?
38. Do you look upon others without suspicion?
39. Are you energetic?
40. Do you refrain from borrowing things?
41. Do you refrain from telling people what they should do morally?
42. Do you refrain from trying to persuade others to your point of view?
43. Do you refrain from talking rapidly?
44. Do you refrain from laughing loudly?
45. Do you avoid making fun of people to their faces?

The higher your score, the more liked you are in general. Each trait answered "No" should be changed through self-guidance into a "Yes" answer. The highest possible score is 79. About 10% of people have this score. The lowest score found in a person who was generally liked was 56. The average young person has a score of 64. The average score of a person who is generally disliked is 30. The lowest score we have found was 12. It is encouraging to note that the average young person has a score closer to the liked than to the disliked average.

CHAPTER IX

He Cultivates the Habit of Success

When I was a boy on the farm in southern Indiana, we had a hired hand, named Billy, who was always afraid that something would "knock him plum' sensible." Since he was struck twice by lightning without any immediate visible improvement in his mental agility, I almost gave up my faith in education by concussion.

That was more than forty years ago, and Billy has long since passed to his reward. But this afternoon, Billy, in my workshop here in New York, if all the knocks and boosts, the criticism and praise, the miserable failures and moderate successes I have had since then, have really knocked me sensible, I am able to say my belief in education by concussion has been bolstered up. I have found we can get information and knowledge out of books, but it takes life to knock us sensible and teach us the true wisdom of rational living.

I doubt that the several dozen psychologies I see on my bookshelves, and the scores of biologies and other *ologies* I have studied, have brought me any better rules of rational living than one or two, which, you, Billy, in your simple-hearted fashion, gave to me in those far-away magical days of boyhood.

When you tried to teach me how to turn the mules at the end of the corn row, so as not to trample down the corn, or how to back them astride the wagon tongue for hitching, without getting the lines in a tangle, I would say, as a small boy naturally would, "I can't do it.'' And you would always reply, ''You mustn't say, 'I can't'; fust thing you know, you'll get yourself in the habit of can'tin'.''

That is the first rule Billy taught me, and it has stuck by me to this day. In fact, this expression became a proverb in our family. And, after all, it is just about what Professor William James, the great Harvard psychologist, remarked in his famous chapter on habit. Only Professor James put Billy's maxim in a positive instead of a negative way, when he said in substance, *''Guard against the habit of failure and cultivate the habit of success.''*

As to how this works, I remember a boy who sat opposite me in the school at Vernon whose career perfectly illustrates this point. This lad was the most bashful boy in school. He would blush and his voice would tremble every time he was called up to recite. He thus got into the habit of failing, and it came near making him a failure at everything else.

But he was a wonder at machinery, and later on his father sent him to a technical school where he was graduated to become a fine mechanical engineer. With all this mechanical learning, he had got so into the habit of failing to express his personality that he rusticated on the old farm for two or three years, afraid to go up against a corporation president and ask for a job.

One day, however, a farm implement agent came along and persuaded this young man that he could go out and sell plows to local farmers. I have often wondered how he screwed up his courage to start; but it was a glorious day for him when he did. He sold three plows the first day. When his tongue got loose, he knew more about plows than any farmer. He had designed plows, built plows, thought plows and dreamed plows.

By the second week he was going so strong that he went farther afield and sold plows to people he had never seen before. In a little while he was selling self-binders and threshing-machines. If there had been dirigibles for farmers, he would doubtless have been selling them.

I saw that boy about three months after he had started out, and the change in him was truly astonishing. He had developed poise; there was a power and incisiveness in his voice and an improvement in his manner that was amazing. He could sit down and talk to you quietly and convincingly, and he had also grown much better-looking. As one of the neighbors said to me, he "sure looked a heap starchier."

Within a few years he was placed in charge of the foreign business of one of the great machinery companies, and I saw him some years ago when he had just completed an extensive inspection for his company of farm conditions throughout several countries in Europe.

I think it may not be out of place if I should relate here a little of my own experience in trying to become a public speaker simply for the reason that it may illustrate how we come by some of our habits of failure and success.

When I was in high school and college I was terrified for weeks in advance at the thought of having to stand up before the school and give even a five-minute declamation. As the day approached I became positively ill. Whenever the dreadful thought occurred to me, my whole head would flush with blood and my cheeks would burn so painfully that I would go out behind the school building and press them against the cold brick wall to try to reduce their surging blushes. It was the same way with me in college.

Of course, like all dreadful things, it had its comic side. On one occasion I carefully memorized a declamation beginning, "Adams and Jefferson are no more." When I reached the platform and faced the audience, my head was swimming so I scarcely knew where I was. I managed to gasp out the opening sentence, stating that Adams and Jefferson had passed away and I saw I simply could not go farther. So I bowed to the audience and walked solemnly back to my seat amid great applause. The president who talked dreadfully through his nose, got up and said, "Well, Edward, we are shocked to hear the sad news, but we will do our best to bear up under the circumstances." During the uproarious laughter that followed the president's remark, death would surely have been a welcome relief. I was ill for days afterward and every one wanted to know when they saw me how Adams and Jefferson were getting along.

Certainly the last thing on earth I ever expected to become was a public speaker. However, we come upon here what a psychologist would term the problem of interests and motivation. It is the deepest thing in education. If you can get yourself interested in a thing, even with very modest abilities, there is almost no limit to what you can do, especially if you capitalize every little success and add it to your savings account.

As illustration of this, it happened during my college course, that I organized a little group outside the regular curriculum for the study of money and the mechanisms of exchange. In those days, fortunately, there was not much that we were required to study and a boy with a little energy and real encouragement, which latter I was extremely fortunate in having from two of the professors of blessed memory, had a wonderful chance to educate himself. That is about all you can do for a boy—give him a chance to learn and encourage him all you can as to the values, excitements and rewards of learning. It is a pretty poor boy who will not respond if you can just find the right kind of interests for him. Some of the mental and temperamental tests, especially the Vocational Interests Tests of Dr. Edward K. Strong, of Leland Stanford, are a very great aid to parents and teachers in finding out just what a boy's or girl's conscious and unconscious interests really are. Because we were *interested* in a study we had chosen and organized for ourselves, we studied hard and learned something about it. I little dreamed, however, that this would be a strong factor in forcing me into the one thing on earth that I least wanted to do and which I felt was impossible,—public speaking.

However, as luck would have it, in the political campaign of 1896 between Bryan and McKinley on the issue of Free Silver, the "paramount issue," using Bryan's famous phrase, was money—the fundamental nature of money itself. I happened to be in Denver rather knocked out with T. B, and in those hard times about half the population was out of a job. Extremely able men—men who had been high-powered, high-salaried executives back east—were working for half their board. I was not even that fortunate. However, coming down the street one morning I saw the secretary of the Denver Chamber of Commerce going about the streets peddling a little book entitled *Coin's Financial School.* He conceived it his duty for the salvation of his country to become agent for this remarkable publication, which promised relief from all our financial woes. I had paid little attention to the campaign up to that time, but the title of the book excited my interest and I dug up my last quarter to purchase a copy.

My concern here is not to "tell the story of my life" to either fast or slow music, but to bring out from a personal case the value of interest and motivation in a man's education. I sat down on the steps of the old Tabor Grand Opera House and read for about half an hour in this ingeniously fallacious and intriguingly absurd essay on "the fundamentals of finance." In every-day parlance, it struck me all of a heap. As I have pointed out in another chapter, one of the easiest fields in which to sell magic to the public is in the field of money—especially in the basic principles of economic law. This little book bore the unmistakable marks of positive genius in framing magical financial formulas for making everybody rich.

After running through it only a few minutes I got to my feet and said to myself, "If this is what Bryan and the Free Silverites propose to bring the country to, it is high time for a fellow with a voice and a little understanding of the laws of nature to protest against it." I felt that if any one should make a speech against Free Silver in Colorado during that exciting time, some foolish person would likely take a shot at him; at any rate his speech would do no good. Indeed, all over the country, the financial distress was so trying, and the remedy proposed by Free Silver seemed such a heaven-sent piece of magic, that people everywhere who "fell" for it would get red in the face and strident in the voice talking about the "Crime of '73" as though it had been a personal insult aimed at them by the Government, although they had never heard of it until the Chicago Convention, and few of them really knew what it was. The country was thoroughly sloganized.

Right at this moment another thing happened to me of great psychological interest in developing the habit of success: *I did something about it.* It is impossible to calculate the amount of real power we all fail to develop by wasting our emotions in idle impulses. I commend the reader again to the famous and eloquent passages of Professor James on this point. As he argues, every fine impulse that we do not obey in some form, every lofty emotion that we allow to evaporate without action, is just another moral opportunity lost. We have missed a great chance for strengthening the will and adding to our life controls. In such a situation, the mind is like a great locomotive standing idle but under full steam. It is actually trembling with its enormous pent-up power, but just because the power is not connected with the wheels, it stands in utter uselessness, merely blowing off steam. An enormous number of people spend most of their lives in the same pathetic way, making noble resolutions, developing fine impulses, but doing nothing about them. Like the engine, they do not hook up their impulses with their motor machinery. They waste their lives simply blowing off steam. For this reason, few of us ever realize one half of the immense mental and moral power that is locked up within the humblest human being.

Well, for once in my life at least, I did not allow my good resolutions to evaporate. I went down the street and pawned my watch for enough money to buy a ticket to Indiana, where I presented myself at once to the local committee and offered my humble services to speak for sound money, and they reluctantly arranged for me to address a meeting in a near-by country schoolhouse.

Again, however, as the day approached for me to address an audience, the old sickening fear returned. I had teamed with a friend, Chapin Wagner, now a successful business man in Indianapolis, who was, like myself, fired with the desire to save our country. Our first engagement was at the old Simpson schoolhouse near Vernon. I was further terrified by the fact that several wagon-loads of my Vernon friends, including "Charlie" Jordan, "Bill" Nauer, "Sebe" Trapp, "Bill" Wenzel, "Roe" Thomas, "Nick" Eitel, "Ed" Welker and Wilbur Gannon, went out to hear us.

I induced Chapin to speak first, hoping it would give me courage for my part of the program. But as I began the picture of my Adams and Jefferson speech in college swept over me; I choked and stammered and all seemed to be lost. However, I had prepared a funny story and had *rehearsed it so often* that I hoped I could go through it almost automatically, even if I were unconscious—which was pretty nearly the case. Had I made a fizzle of that story and sat down in the midst of it, as I felt I must do, I am perfectly certain I should not be writing this book now, because I would never have gone into either public speaking or writing. But, as Chauncey Depew often said, both the audience and I managed somehow to live through the story; and, encouraged by even this tiny success, I went on talking for what I thought was about fifteen minutes and sat down. To my amazement, I discovered I had been talking an hour and a half!

To use the word of Ralph Parlette, the humorous lecturer, other committees wanted me to come and "irritate" them in the same way, and as a result within the next few years, I was the most surprised person in the world to find myself making my living as a professional public speaker.

I have ventured to inflict on the reader these personal experiences, partly in the hope that they may encourage some young persons—not necessarily to become public speakers—and partly because they happen to be the best instance that I know at first hand of what James meant by the habit of success. There is not a single moment of our lives when this great fact of nature and human nature is not at work within us. It is almost a law of life itself. It is certainly a fact in the mechanical operation of the nervous system and the formation of habits, that every impulse *acted* upon, every resolution *carried out* to some fruitful issue, that is, *every fine emotion that gets us somewhere,* is literally weaving itself into definite patterns of success among the tiny nerve cells, and by and by their texture becomes so powerful that scarcely anything will break them down.

There is another point of great educational interest that, I think, is involved in my efforts to become a public speaker. Looking back now as a sort of home-made psychologist, I am thoroughly convinced that public speaking was one of the deepest day-dreams of my boyhood. I was terrified at the thought of actually doing it, yet I was fascinated by all public speakers, and often pictured myself standing on a platform swaying an audience. The first public speaker of any note I ever heard, was Dr. "Sunshine" Willits, one of the famous platform speakers of that day. Until I was twelve years old I heard only the local preachers, and my father, who was superintendent of the Sunday-school. Although a farmer, he was one of the quickest men on his feet that I ever saw before an audience, and, I am convinced, had some Free Silver campaign or other stimulus started him at it when he was a boy, he would have made a far better orator than I shall ever be. If it is possible that such traits and capacities are inherited, whatever I possess must surely have come from him.

Doctor Willits gave his famous lecture on *Sunshine* at the Old Deputy Camp Ground that for fifty years was the great Methodist camping ground of southern Indiana. I climbed up in a tree to get a good box-seat. It was the first time I had ever heard any one tell a funny story in a public address. And when the good doctor began to illustrate his points with comic stories, and to my amazement acted them out, I went into ecstasies of delight. When he told the story about the man who shot eleven times at a squirrel without hitting it and then discovered that he had been shooting all the time at a louse lodged in his eyebrow, I let loose from my ''coign of vantage'' and came crashing down in the midst of the audience.

If some one had told me then that I would some day be President of the United States, I would have believed him much more readily than if he had told me what became a fact, that within a few years I should be sent out by a lecture bureau to fill some of Doctor Willits' dates when he was ill.

CHAPTER X

He Cultivates the Habit of Success

(Concluded)

I trust the reader will keep in mind that in relating these personal experiences, my interest in them now is educational and psychological. For months after Doctor Willits' address, my brothers and I would get up on stumps, especially on a large sycamore snag that hung out over the ''Old Swimmin' Hole,'' when we were in a state of nature, and deliver to one another all we could remember of his lecture. We told his stories scores of times and tried to reproduce his eloquence. Indeed, it is quite within the inferences of experimental psychology that my rehearsals of Doctor Willits' comic stories, still on tap among my habit mechanisms, waiting for the right button to be pressed, were the very thing that saved my skin on the night, many years afterward, when I opened my campaign with a funny story to defeat Mr. Bryan for the Presidency.

It seems to me these, and numerous similar incidents with which I shall not weary the reader, indicate that the passion to be a public speaker was in reality woven all through the day-dreams of my boyhood. This is why I think that getting at the day-dreams of children, the patterns that unconsciously weave themselves through their reveries, is one of the most important of the more recent developments in psychology. It goes to the beginnings of these habits of failure and success that largely make us what we are. Dr. Clifford

R. Shaw and his colleagues, of the Institute for Juvenile Research of Chicago, are doing extraordinarily important work in this field in unearthing the day-dreams of delinquent boys and girls. A number of wonderful techniques are being developed. Several years ago Dr. Vernon Cady, the psychologist, went out to Long Beach, California, a city of one hundred thousand or more, and had the parents and teachers select for him seventy-five of the best boys and seventy-five of the worst in the city. Although Doctor Cady did not know which was which, by giving them numerous tests that tended to reveal their day-dreams, their real character, he was able to separate the two groups of boys with almost one hundred per cent. success.

I have ventured with much diffidence to relate these personal experiences in order to illustrate as forcibly as I can that if we are ever to solve the problems of delinquency and crime on the one hand and the problems of character building and vocational guidance on the other, one of our most effective lines of procedure will be those methods and techniques that the psychologists are developing for getting down into the very roots of being, especially among children and youth, down into those reservoirs of reverie and day-dream which constitute the real selfhood—that all-possessive, inclusive *self* that some day we shall have to choose, once for all, and stand by and live with until our dying day.

These considerations bring us into contact with one of the most important problems of the mental life and one that is not altogether solved. We used to believe that we could "discipline" or "train" our minds *as a whole.* For instance, we believed if we went through what was called "mental drill" in algebra or Latin or some other "cultural study," that it strengthened or improved our mind in a *general* way, so that we could better solve the problems of the farm and store and machine shop. It was believed that there took place a very large, indeed, a wholesale ''transfer of learning'' from the particular brain center that was trained to the brain as a whole so that our entire range of mental abilities was measurably raised.

E. L. Thorndike, of Columbia, and his students did a great deal of work years ago which indicated that there was not much to the doctrine, and that precious little general improvement took place from special mental drills. The work of Franz, followed by Lashley in the field of brain anatomy, together with the work of Tingley and a number of other neurologists and experimental psychologists, seems to indicate that after all a large amount of transfer of learning might take place. The studies of Professor Frank Freeman, of Chicago University, on adopted children placed in good or bad homes, indicating that good homes raise the general mental ability and bad homes depress it, might be interpreted as bearing somewhat upon the problem. Professor Spearman, the English psychologist, has worked out some extraordinarily ingenious theories about general mental ability tending to the belief that special mental exercises may exert very wide general effects. The work of Professors Freeman and H. H. Newman on identical twins separated in childhood and reared under different environments, indicates that specific experiences may have some generalized effects on abilities and traits. Recently A. T. Poffenberger experimented on some minute special drills in arithmetic to see if it improved other arithmetical functions and concluded it did not. Two psychologists of the University of Washington, Doctors Newkirk and Gundlach, have carried out experiments however that do not support Poffenberger's conclusion but rather tend to controvert them.

The literature is extensive but none of it strongly supports the old notion that a few mental drills in cultural subjects are going to transfer fifty to one hundred per cent. of their results around through our brains and improve them to that degree. The more general belief is that if we drill our minds on one subject, this exercise does not, to any great extent, transfer its effects all through our brain and give us very much greater mental power for all sorts of problems.

However, this theory seems to apply more directly to what we may call our intellectual habits and abilities and, happily, these constitute perhaps much less than half of our whole mental life.

Probably the biggest thing in your life—indeed almost all of your happiness—is bound up in what is called your moral or emotional or volitional traits and habits. These are such things as determination, stick-to-it-iveness, will power, generosity, friendliness, courage, tactfulness, cooperativeness and the like.

Now, the fortunate thing is that if you train any *one* of these traits, most psychologists at present believe it is more likely than algebra or Latin to spread to other brain centers, and thus give you *general* strength of character. The reason for this probably is that the whole emotional tone is favorably affected, and a tendency is created to set up an ideal.

For instance, if you train a boy to admire a certain hero, or to meet the Boy Scout hardships with courage, it seems probable you tend to set up inside him *a general idea of courage.* You may not need your algebra or Latin twice in your whole life, but you *need courage all the time.* If you train yourself to make quick energetic decisions, even about small matters, such as writing the overdue letter, or keeping a disagreeable engagement, or doing your daily dozen, you see yourself idealized as a decisive, energetic character. And the more you picture yourself as a strong character, the more you will want to measure up to it. All this is part of the process by which you build up what psychologists now call your personality picture.

If you succeed in resisting the extra cup of coffee or cigar to-day, you have more strength to resist it to-morrow. Gradually, you acquire the habit of succeeding in little things. Soon the habit of success in little things broadens into the habit of succeeding in big things. With time, succeeding becomes your second nature and knits itself into your very being.

That is why it is literally and actually true that "nothing succeeds like success." The habit of succeeding rolls up like a snowball until it sweeps everything before it. *When you have made your nervous system your friend instead of your enemy,* all the habits of a lifetime, all your dynamic force, all the faith, hope and flood of your nature is behind you in every undertaking. You can not fail, for the literal and actual reason that your whole mind is filled with the picture of success, and failure has become *unthinkable* to you.

It seems to me if we knew how to apply this principle with certainty it would revolutionize education. I often think in this connection of the education of those two great men of genius, Alexander von Humboldt and his brother Wilhelm. Alexander was eminent in many fields of science, and his brother was the father of the modern educational system of Germany. Both of them were philosophers, scientists, orators, writers, politicians and statesmen. There are more rivers, mountains, lakes, streets, towns, et cetera, named after the Humboldts than any other men who ever lived. Dr. Catherine Cox Miles, has brought this out, beautifully, in her monumental study of the childhood of great geniuses, conducted in association with Professor Terman, of Leland Stanford.

As Doctor Miles relates, the father died when the Humboldt brothers were babies. The mother, a titled lady of great intelligence and wealth, employed twelve great men as their teachers, eleven of whom have their biographies in the German encyclopedias. What fortunate boys! No doubt they had a good heredity and they surely had a glorious environment. One of the chief points in their education, however, was that the mother cautiously but firmly laid on their shoulders, as they grew up, the heaviest responsibilities they could possibly bear. She sent them on important missions to other countries and placed the responsibility for success upon them. She gave them big tasks and duties. I think that is one place where a farm boy has an immense advantage over his city cousin. It is hard in the city for the parents to provide the responsible tasks and opportunities that are a commonplace in the life of a farm boy. If the other rural stimuli and educational facilities were as great as this, I should say the best place in the world to educate a boy is the farm, provided he has intelligent parents. I don't know but that, anyway, it beats anything as yet devised.

Doctor Miles contrasts the education of the Humboldt boys with its immense breadth, its development in them of the *early habit of successful achievement over a wide range of undertakings,* with the narrow education of Robert Burns. As she suggests, the Humboldt brothers would probably have become distinguished men, even with the narrow education of Burns, but they could never possibly have made significant achievements in so many fields without this broad education, this early development of so many habits of success.

The same could be said of the boyhood of Benjamin

Franklin and of Abraham Lincoln. They early developed the habit of assuming important undertakings. I am convinced this is a prime principle in education, and if managed with judgment by parents and teachers would be enormously effective in both the moral and intellectual education of our youth. I do not know precisely what educators now think of the Montessori system of education as a whole; at least I have not made it a point to keep abreast of such matters. But, it seems to me, Maria Montessori had one principle of great suggestiveness: never help a child do something at which he thinks he can succeed by himself. When a baby is trying to climb on a chair, our natural impulse is to give it a boost. When a boy is working at a problem we naturally want to give him help. But so long as the child is not in any physical danger, by giving it help we have destroyed a fine chance for the child to develop a habit of success.

The same idea, only stated on the negative side, is a famous admonition of former President Charles W. Eliot, "Never give a child a task it can't perform." It seems obvious that, in setting tasks for children at which we know they are going to fail, we are only inviting moral disaster by beginning the habits of failure. Our clinical psychologists have demonstrated that these habits may persist for a lifetime and affect our entire earthly career.

Bearing upon the same great developmental theme there is a celebrated passage in Professor James' little book, *Talks to Teachers and Students,* a passage that has often come to my rescue when I was in a tight place:

> Every smallest stroke of virtue or of vice leaves its never-so-little scar. The drunken Rip Van Winkle, in Jefferson's play, excuses himself for every fresh dere-

liction by saying, "I won't count this time." Well! he may not count it, and a kind heaven may not count it, but it is being counted none the less. Down among the nerve cells and fibers the molecules are counting it, registering, and storing it up to be used against him when the next temptation comes. Nothing we ever do is, in strict scientific literalness, wiped out. As we become drunkards by so many separate drinks, so we become saints in the moral world, and authorities and experts in the practical and scientific spheres, by so many separate acts and hours of work.

I have dwelt upon this first principle of rational living because it is the basis of all others. If you have not discovered how to form successful habits and principles of living, you can make all the fine resolutions in the world and be preached to by the greatest preachers and writers on earth, and it will do you no good. But if you have learned this great fundamental lesson, then the kingdom of success lies open before you. It might be that your practical plans would fail, because sometimes failure comes from causes that are beyond our control. A farmer's plans may fail because of the weather, a salesman's plans may fail because of changed conditions. But you can be sure if you have learned the *habit of success* all the forces of will and personality that you possess are on your side. And, even granted that you do not make money and that your plans do fail, *you yourself have been a success.* When Palissy, the inventor of the famous French pottery which bears his name, was condemned to death for his religion and thrown into the Bastile, King Henry III went to see him in prison and told him that he pitied him very much and would like to set him free, but that he was so "constrained" by his enemies tnat he could not, unless he recanted his religious faith. The unconquerable old man replied, "It is I, Your

Majesty, who pities you when you say, 'I am constrained'! It is not spoken like a king; all the enemies in the world can never constrain me, because I know how to die." Even in death, this old man—one of the noblest heroes that ever lived—was a gigantic success. And precisely that same *personal* success is open to the humblest man or woman alive.

In the next chapter I hope to bring out even more clearly some of these principles that our educational psychologists have worked out, mostly from actual experiments that seem to me of exceptional significance in creating habits of rational living—the habits of a truly educated man.

CHAPTER XI

HE KNOWS AS A MAN THINKETH SO IS HE

IF YOU will watch yourself closely the next time you are trying to decide what to do about some matter, you will notice that in the end *you always follow the thought that at the last moment is uppermost in your mind.*

It makes no difference whether you are trying to decide to get out of bed and take your cold bath, or to brush your teeth, or to write that long-delayed letter, or to quit drinking or smoking, or to leave off your morning coffee, or to speak pleasantly to your grandmother, it is the last thought uppermost in your mind that decides your action.

You go through life following your strongest thoughts. You can no more escape doing this than you can escape following your nose. Your mind and body are just built that way. It is your *thoughts* that determine your character and destiny. And the inspiring and comforting thing is that you yourself can control your thoughts. At least, unless we are pure monists or mechanists, we believe you can decide for yourself in the main what you will think about. To this extent, therefore, your character and destiny are at every moment in your hands.

The prophet, Ezekiel, expressed this whole phase of the psychology of habit when he said, "As a man *thinketh* in his heart, so is he." Not only so is he, but so *does* he.

While, of course, it has not been put to universal experimental proof, I believe the whole sweep of modern psychology agrees in a general way with this conclusion. Our psychologists believe in a broad sense that *every thought you think tends to express itself in action.* You would act upon every thought that comes into your mind if it were not headed off by some other thought before it reaches your motor centers and sets them going. The thought that gets there first is the one that decides at that moment what you shall do.

Your whole life is, therefore, just a seesaw among your thoughts, each one, so to speak, fighting to get through to your motor centers first and trying to get you to carry out its own particular notion into action. As an illustration, when I am in an audience, I often catch myself thinking of jumping to my feet and shouting "Fire!" at the top of my voice, and then leaping upon the stage and quieting the crowd, and coming out a hero. Fortunately, however, some counter-thought has—so far at least—always headed this one off before it got to my muscles and set me going. I have thus preserved my reputation for sanity and common sense.

Our alienists believe that insanity is chiefly the loss of this power to head off foolish and inappropriate thoughts before they carry themselves into action. A drunken man has also lost this power and tries to carry out every notion that pops into his head. Everything he thinks of seems, at the moment, like a fine thing to do. This is illustrated by the story of the drunken Englishman who jumped through a plate-glass window. When he sobered up, the surgeon who was dressing his wounds asked him why he did it. He replied that he didn't know, but that it "seemed to be a splendid idea at the time."

As a matter of fact, you always do what seems to you the most splendid idea you can think of *at the time.* It may be something very disagreeable, but it seems at the moment the best way out of the situation.

Then why is it that you ever do wrong? Just because, when a temptation comes up, the most splendid thing you can think of to do at the moment is to yield to it. And you yield to it because, unfortunately, you do not have ready at hand any better thought to put in its place. You may say you were "weak." Of course you were. You were weak in that you failed to get some good strong thoughts ready beforehand, so you would follow them. The reason you yield to temptation is merely because at the last moment you can not think of anything better to do.

What then is your great safeguard? Why, you must here fall back upon your already developed habits of success that I discussed in the previous chapter. And what is one of the best ways, almost the only way, to build up these habits? The answer is, *you must have your habit maxims and habit ideals ready in your memory.* You must see to it *in advance* that you have ready at hand and *thoroughly rehearsed* a goodly array of clear-cut strong counter-thoughts, so that when you are in a pinch they will be already on the ground, ready to rush to your aid.

People nowadays often scoff at the old-fashioned mottoes that mother and sister—and sometimes sweetheart—used to work in cardboard in yarns of different colors and hang on our walls, such as "Dare To Do Right," "Love One Another," "God Bless Our Home." Of course, if you merely hang your mottoes on the wall they are worse than useless. But if you hang them in your mind and heart and *think* about them, flood them frequently with a tide of emotion, try to picture concretely how they ought to fit into various situations that are likely to arise, such as "special temptations" and "besetting sins," it may happen that your having the right motto ready at the right moment will be your immortal salvation.

You see here a clear picture of what is happening inside of you when you are battling against temptation or trying to reach any important decision. The battle is going to turn on just this: *Which set of considerations is going to reach your motor centers first?* For a long time, like horses getting ready for the race, different reasons and considerations prance about under the starting wire until they hear the word "Go." Now, at this moment, if your habits of success, your ideals and moral maxims are in fine fettle and straining at the bridle, they will get the word first and be off; and you may be sure they will keep their lead until the race is over.

This is another illustration of what James meant when he said, "Make your nervous system your ally instead of your enemy." If you do this, you will find that by and by these ready-made thoughts, good resolutions and maxims will get so in the habit of rushing in at the right time that you can depend upon their doing it automatically. Indeed, you can in time forget all about your temptation. As a matter of fact, you will forget all about it, safe in the comforting knowledge that these counter-thoughts are going to jump in, even in advance, and conquer the temptation thoughts even before they come clearly into your head.

I remember reading a charming essay some years ago by one of America's most distinguished novelists reciting how he overcame the drink habit that had become a serious drag on his life. The main point he made was that after he had tried a great many methods and failed, he developed the habit, whenever temptation arose or when a drink was offered him, of saying firmly, "I have quit." Not "I am going to quit," or "I am trying to quit," or "I hope I can quit," but simply "I *have* quit." This shut off all debate. No counter consideration could arise so long as he held this firmly in mind. He tried to think it and feel it as just an ordinary recognized fact of life. As a result, I understand from his intimate friends, he has not taken a drink within the past twenty years.

A great many people try to break undesirable habits by clinching their fists and gritting their teeth and saying, "I won't." A much better way is to take the positive side and say, "I will." Even this does little good unless you have clearly in mind some positive course of action.

I knew a man who tried for many years to overcome the drinking habit, but always failed. He thought the way to stop was by tugging away at his will power. Often, as many drinkers do, he would take a half-dozen drinks in the hope that they would screw up his nerve to the point where he would have the will power to quit! This is all a wrong notion of what the will is. Will power is in the main simply clear, straight *thinking.*

What saved this man was getting a good thought all ready to spring on the situation whenever it arose. He got the idea, which is perfectly true, that you can not think of two things at once. He found he could not keep the idea of health, soberness and self-respect uppermost, without losing the idea of their opposites. As I have mentioned elsewhere, the mind acts very much like a machine and its operations can be predicted beforehand. This man fixed firmly in his mind, *in between drinks,* that he could depend on the law that if he kept thinking of the right course, he simply could not think of the wrong one. In this way the temptation absolutely vanished. If you will try this, you will find that you can not even tell where your temptations have gone. They are just not there, and that is all there is to it. This man did not so much conquer the drinking habit as he conquered his mind.

I use the drinking habit merely because it is a sort of standard example, but the same things are true of all habits. And these instances surely make it plain that the most essential thing in building your character is to get firmly fixed in your mind a great many of these energizing, high-pressure, T.N.T. thoughts—these psychological handles and boosts—so you can grasp them instantly with both hands when you are in a tight place. Grabbing the right thought at the right moment, and holding on for dear life is your salvation.

Of course, you may happen to think of the right thing at the right time, but what if you don't? You are simply lost. Your happiness depends upon getting some good thoughts ready beforehand.

A great many people excuse themselves for having done wrong by saying, "I didn't think." But, as Professor James said, "What were you there for except to think?" As a literal matter of fact, at that particular moment, you couldn't think. Why not? Simply because, so to speak, you had no good thoughts ready at hand to think with. The wrong thought got there first, because you had nothing ready with which to head it off. So you automatically followed the thought that got into the lead, and as an inevitable result you did the wrong and foolish thing.

I have brought forward these broad general principles of character building, because I have recently discovered a man who, it seems to me, is putting them into practise both upon himself and upon thousands of other people with what appears to be astounding success. His name is J. Franklin Wright, and he lives in Detroit. He was formerly a railroad switchman and yardmaster, later an insurance agent, and for the past fifteen years has been building up an organization for teaching habit formation and character building that is attracting the attention of leading psychologists and educators all over the country.

I am perfectly well aware that all schemes and systems for building character to be deemed valid must now undergo not only rigid scientific scrutiny, but a new kind of scrutiny. Their results are being *measured* by very exact procedures just as the results of teaching any system of reading or spelling, or the like, have been undergoing this process ever since Dr. J. M. Rice, in 1898, inaugurated a new era in education by measuring the results of different ways of trying to teach children to spell. To the amazement of the whole world he discovered that we did not have the slightest idea how to teach children to spell, because one method, he found, succeeded just as well or as badly as another. In some mysterious way certain children had learned to spell better than others, but it seemed to make no difference how they were taught.

The great problem of character education is to-day in very much the same general status. We simply don't know how to teach children to be good. However, a very encouraging start has been made by our psychologists who have begun to measure the actual effects upon character of the numerous schemes for trying to teach it.*

However, I want to tell you about this man Wright, because, although his work has not yet been subjected to scientific measurements, its results seem to be well enough authenticated to warrant my recommending it to parents and educators for a trial. I might add that Mr. Wright and I are now raising funds in order to have a scientific survey made of his work by these character measurement experts. I have great confidence in such a survey, but I can not help believing in advance that they will find the methods Wright has worked out to be free from a number of faults found in other public efforts at character education. I have the impression that his methods are more objective than most other methods; they certainly are completely free from authority on the one hand and from religious emotionalism on the other. Furthermore they have *no system of badges or rewards for good deeds,* which seems to be a very grave fault wherever it has been tried. Promotion in the ranks of any organization, or the giving of honors for good conduct seem to have the effect, at least upon young people, that you would not expect until you give it a little thought. If you reflect, however, you will likely see that these rewards might readily cause children to lie, cheat and steal in order to obtain them. The children lose sight, apparently, of the inherent goodness of the act in the passion to become important and receive personal distinction.

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*I strongly recommend to parents and educators the following books concerned with character education and the measurement of the effects of such efforts.

Studies in Deceit, Hartshorne and May, Macmillan, N. Y., 1928.

A Guide to Books for Character, Starbuck and Others, Macmillan, N. Y., 1930. This is the best book in existence I think for answering the age-old question ''What should my child read?''

The ''Case Conference Method'' developed chiefly by Richard D. Allen, in the Providence, Rhode Island, schools, Paul McKendree Reading, in the Toledo, Ohio, schools and by others is one that bears great promise and should be tried much more extensively by school men in cooperation with parents.

The foregoing suggestions correspond with a theory of crime that has been advanced by Dr. Alfred Adler, of Vienna. He has suggested that one of the chief reasons why people, especially young people, commit crime is their intense desire to have money and also be heroes and swagger about and be important. They see other people achieve money and distinction by hard work, but they are not willing themselves to go through the intense labor necessary to obtain importance by the same route. So they literally take "the easiest way," and Doctor Adler insists the chief urge in the matter is this passion to be important.

Wright does away with all this paraphernalia, keeps clear of all suggestions of either school or church domination or influence and, in his simple-hearted fashion, is not far from teaching the Greek ideal of the good life just for the sake of the good life and nothing else. Further, his work illustrates what I was saying about building successful habits of self-control.

CHAPTER XII

He Knows as a Man Thinketh So Is He

(Concluded)

The remarkable organization for character education that Mr. Wright has set going, he calls the "Pathfinders of America." Another name he gives it is "Human Engineering, or Reading the Price Tags of Life." He makes no money and is supported entirely by voluntary contributions. He gets down to his office in the Lincoln Building anywhere between half past five and half past seven in the morning, sometimes has to awaken the elevator boy to take him up to his office, carries his lunch in his pocket, holds conferences all day with parents or teachers, or criminals he has reformed, delivers lectures, writes Pathfinder lessons, gets home at ten or eleven o'clock at night, and receives and takes care of five thousand letters a week from school children alone, besides thousands from adults.

These letters are all voluntary, written merely to tell the benefit which the individual has received in character-building, or asking for further advice. Wright has seven trained teachers of his own, who go into sixty of the public schools of Detroit and teach "Human Engineering" and how to "Read the Price Tags of Life." He is also carrying on similar work in the schools of Cleveland and Brooklyn, and reaches over four thousand pupils of the public schools of New York City. In addition he reaches over five thousand men and women in prisons all over America through what he calls "Pathfinder Councils," and also several thousand men and women who have organized Pathfinder Councils in their families or neighborhoods.

He gives no instruction to single individuals, but two or more persons—a father and son, for example—can form a council and receive instruction by mail, without charge. Some of these councils are in foreign countries, one in Smyrna, and one in Rome, with a prominent Senator of the Italian Government as a member.

Wright has no new psychological discovery, no patent will-power device by which you can lift yourself by your psychological bootstraps. His whole method, I think, is comprised in what I have already said about habit: he teaches people how to think right thoughts instead of wrong ones. He appeals chiefly to your *reason* and shows you *why* it *pays* to be good. He supplies you with a large number of these ready-made psychological handles, which you may grasp easily and by which you may hold yourself steady at a trying time.

One strong element of Wright's success is as I have intimated, that there is no compulsion or authority about it. He is not a part of the school system, compelling children to get their lessons, nor a part of the prison system. Even parents and teachers find it hard to get entirely away from their position of authority and compulsion. But people come to Wright voluntarily. I have seen little school children cheer wildly when they saw the Pathfinder teacher come to give them a lesson in character building. Of course, his work supplements all other religious and moral training, but since he reaches all classes and creeds, his teachers give no direct religious instruction. He simply teaches children and adults how to plan their lives as an engineer plans a building, and how to read the Price Tags of Life.

As I have said, Wright has merely worked out a large number of convenient, ready-made psychological helps and devices, and I think that perhaps the best examples of all his many character aids are what he calls his Guide Posts. The first of these he calls the Psychological Guide Post. In many ways it is the most important one and lights the entire pathway to a successful character. It embodies essentially the same principle that I have already pointed out, that what you think is the controlling factor in making you what you are.

Wright tried out his system first on himself. For years he tried every possible way to overcome the smoking and swearing habits. He had acquired these merely because back in the 'eighties and 'nineties they were looked upon as being necessary to a successful railroad man. He was smoking twenty-two cigars a day, and the doctors urged him to taper off gradually. They said if he quit suddenly it might kill him. He tried the tapering off method for years, but always failed. It always does fail. You never quite reach the jumping-off place. Moreover, you steadily develop the habit of failure, instead of developing the habit of success. It is just as easy to develop the latter as the former.

Of course every one told Wright that what he needed was "will power." Fine! But nobody gave him any clear idea of what will power is or how to get hold of it. While riding on the train one day he was watching the engine through the window as it was rounding a curve. Suddenly, he got hold of just the right thought, just the right psychological handle to lift himself out of his difficulty.

Wright said to himself: "My mind, in forming a habit, works just like that engine pulling the train. The train is moving because three things are working in harmony: the engine is the will power, the steam is the desire, and the engineer is the reason. No piece of machinery is more helpless than a locomotive without steam, and no mind is more helpless than one without a strong, right desire based upon and controlled by reason. Likewise, no engine is more powerful and at the same time more dangerous than one with a full head of steam—a tremendous desire—but without an engineer, without the reason in control."

Wright saw that what he needed was to build up his desire in order to get a full head of steam. And to do this he perceived that the engineer—that is, his reason—must construct sound intelligent reasons in the direction of the right desire. In other words, he saw what no one had ever told him, that thinking of the right thing at the right time is the chief solution of habit formation.

It matters little whether the analogy between the mind and the locomotive is perfect or not. It did the business for Wright. He went to bed that night thinking so clearly and strongly about the good things, such as health, efficiency, sound sleep, self-respect, being his own boss and the like—all of which the absence of the tobacco habit would give him—that the next morning he woke up with his desire to smoke completely gone. These new thoughts, these new, clearly reasoned desires, so completely possessed his mind that the desire to smoke, so to speak, never so much as got a look-in. He also found that quitting the swearing habit, or breaking any habit, was precisely the same mental process. The new ideas headed off the old ones before they got to the motor centers, and simply squelched them.

Another Guide Post of the Pathfinder System that I should like you to try out yourself is embodied in Wright's idea of learning how to read the Price Tags of Life. Wright has a whole series of lessons on this point, entitled, "The Price Tags of Desire," "The Price Tags of Character," "The Price Tags of Home," "The Price Tags of Time" and the like.

These lessons point out that everything in life has its price tag plainly printed on it, and all you need do is use your reason to read it correctly and decide whether or not you wish to invest. Wright says that you do your own buying and selling, and there are no special bargains or marked-down sales. You reap your own profit and your own loss. There is no record where nature ever let a man off for wrong-doing or ever failed to reward him for doing right. She has no friends or enemies and plays no favorites.

All very simple, of course, and very old, except in one point. You have been told, "You ought to count the cost." But have you ever said, "I'm going to count the cost myself, to myself"? Have you ever actually on a piece of paper or even mentally set down on opposite sides the prices—what it costs and what you got out of it—of something that you wanted to do, added them up and struck a balance? Just try this on some of your bad habits, and you will be amazed at the results. I have seen it do seeming miracles with children.

This simple little habit device sometimes works when everything else has failed. Here, for example, was a woman of excellent mind and general character, who by chance fell into the morphine habit and for fifteen years tried desperately to quit. Mr. Wright merely asked her to take a piece of paper and write at the top of it, "What I am buying with dope." Under this she made a long list, such as ill-health, prison, suicide, insane asylum, mental suffering and the like. He had her turn the sheet over on the other side, and write, "What I can buy without dope." Under this heading she listed, mother's love, respect of brothers and sisters, good health, peace of mind and a great many similar blessings.

Every night this woman read these two lists over carefully and, as she had promised Mr. Wright, thought about each item. You simply can not lay hold of any psychological or spiritual power unless you think about it. Within three weeks, by merely using her reason, this woman's personality underwent a startling change. More and more her self-mastery thoughts rushed in ahead of her previous self-indulgence thoughts and took possession of her mind. Instead of violent tugging at the will, and vehement resolutions which seldom get any one anywhere, she gradually gained intelligent self-mastery. Her reason, a far better guide than unintelligent emotional enthusiasm, constantly told her why one course was better than the other. So this woman began reading the Price Tags of Life intelligently three years ago and has now forgotten that the dope habit ever existed.

Another one of the Pathfinder helps is the Human Engineering Guide Post. Try asking your children this question, "What would you think of a man who started out to build a building or an engine without any plans or blue-prints?" They will see the joke at once. Then ask them what they would think of a boy or girl who started out to erect a life building without any plans. What would they think of a life building with truthfulness or sincerity or loyalty or perseverance left out of it? One little girl who had never told the truth when she could help it became convinced that her life building, with truthfulness left out, would be likely to fall down. She began telling her mother the truth so faithfully that for a long time her mother would not believe anything she said!

Another simple way of impressing this on your children—and you might try it on yourself—is this: ask, "What is the most important moment of the day?" Wright put this recently to a large class, and one little boy shouted:

"Dinner-time!"

"Well," Mr. Wright replied, "of course, that is important, but there is a moment right after your evening meal that is much more important. That moment is seven o'clock."

Wright says that we might call seven o'clock the psychological moment of human life. Most destinies are decided then, simply because at seven o'clock nearly every one is debating how he is going to spend the evening, which, for most people, is their only time of leisure. And it is the way you spend your leisure, when you are free to do as you please, that exhibits your true character. When Dwight L. Moody said, "Character is what you are in the dark," he might also have said that character is what you do in your leisure time.

Wright asks you to say to yourself at seven o'clock, as you are facing the next few hours: "How would the thing I am planning to do for the evening look ten years from now when fitted into my life building? Would I like to talk over this evening's doings ten years from now with my parents or friends? Would I like to see it printed in large letters on the outside of the temple of my character?" He then asks you to close your eyes and try to see this picture clearly, and answer these questions squarely, for *just three seconds.* If your reason and judgment tell you that they will fit into your life plan, so you would enjoy having others see them, well and good; but if not, he finds you will almost automatically decide upon something finer and better to do. Frequently parents have found this the most effective thing they have ever tried to keep their boy from spending his evening at a pool-room, or their girl from spending her evenings in dangerous ways on the street.

There are scores of other habit-forming helps which Wright has worked out, and from them all I wish to mention just one more, the one he calls his Motion Picture Guide Post. It is a fine, ready-made, habit-building thought for an emergency.

The mind, he points out, is just like the sensitive plate or film of the camera, and all the five senses, indeed, all the sixteen or eighteen senses that the psychologists have now discovered we possess, are wide-open shutters registering every picture that passes by. It is within your power to close any of these shutters you like, but this sensitive plate, your mind, never lies; the pictures made on it reveal every detail. Now, it is for you to determine what pictures you will have made on that sensitive film. You can make a picture that you would be ashamed to have run on a screen with your father and mother and friends watching it. Or you can make a picture that you would be proud for everybody to see.

Of course, you may imagine that no one will ever see these pictures except yourself; but this is not true, because it happens that the mind is so interwoven and linked with your body that, like the talking motion-pictures, your actions and personality are bound to reveal the pictures you have made upon your mind.

This suggestion makes a powerful appeal in habit forming, especially to children. It is only another example of the numerous helpful Guide Posts and simple, every-day, character-building devices that this former railroad switchman and insurance agent has worked out. They have actually transformed the lives of thousands of men and women and certainly seem to be building character in thousands of our young American citizens.

Twenty thousand letters a month which pour into this man's office from school children, written voluntarily just to tell how the Pathfinder lessons have helped them, are one line of evidence. The hundreds of mothers and fathers calling continually at Wright's office to tell him how their boys and girls have been helped, sometimes almost transformed in their habits, is another. Still another evidence is the excellent results obtained among men and women in prison. Take for example the Pathfinder Council started in 1916 among the six hundred prisoners in the State Penitentiary at Ionia, Michigan. The Council grew to four hundred and sixty members, of whom three hundred and twenty were subsequently released on parole. Now if the average record of that prison had prevailed, one hundred and twelve of these men would have come back later as parole violators. If the best record ever made there had prevailed, seventy-four would have come back. Only five of the Pathfinder members ever violated their parole. All but five of these three hundred and twenty men have become self-respecting citizens.

I could cite scores of individual prisoners who have been helped. One man who had been in every prison in Ohio and Michigan and had tried to burn a Michigan prison down, and was in stripes with ball and chain, happened to be passing across the prison yard when he heard one of the boys reading a Pathfinder lesson. He stopped and said, "Let me see that." He asked to join the council in character-building and, to make a long story short, he is now foreman of a big shop in Detroit.

Another young man whom we shall call Gene, aged twenty-one, who had been in jail nearly all his life, became enthusiastic over the idea of planning his life as an engineer plans an automobile.

He knew something about automobiles. His specialty had been stealing them. When he was released, he managed by honest work to acquire an automobile of his own and started a trucking business. That was four years ago, and Gene is now making thirty thousand dollars a year. Just recently one of his old pals showed him where they could rob a bank and get four thousand dollars apiece. Gene pulled out his check-book and replied, ''I can go into the bank and shake hands with the cashier and draw out six thousand dollars by using a fountain pen instead of a gun.''

I have drawn upon Wright's experience to show you by concrete proof on a large scale that what I maintained in the beginning is true, namely, that your destiny depends upon your thoughts. You are going to be a strong or a weak personality just as you determine the things that you permit your mind to think about. And if you have a good will that is strong, it means that you have trained yourself to think about courage and perseverance, loyalty and the high purposes of life. As a result all the energies of your being flow steadily in these directions.

The greatest difficulty is, however, that neither you nor I have ever used one-half of the vast reservoirs of personality and will that we already have within us. All modern psychology agrees that we have rich untapped resources for achievement we have never drawn upon. And the reason we have never opened up these hidden storehouses of power is that we have never *thought our way into them.*

As evidence of this, we now and then see some woman—she may have been a delicate invalid or a social butterfly—who has been suddenly left by the death of her husband without resources and with two or three children to rear and educate. She is either crushed, or else she suddenly rises to higher levels of character and decision. For the first time in her life she may become possessed with the drive of a great purpose, and a great purpose is just something that you think about with all the concentrated capacities of your mind. This was the doctrine Thomas Chalmers preached in that immortal sermon out of which thousands of other sermons have been preached by lesser men, "The Expulsive Power of a Great Affection." A great affection, a great purpose, expels all other energies from our lives but its own. And sometimes misfortune is the very thing we need to electrify our lives with the expulsive power of a new hope, a new dream, a new allurement that unlocks the secret treasure-house of our unused spiritual potencies.

And sometimes, too, all we need in order to lay hold of our inner resources is just some simple method, such as this big-hearted, big-brained railroad switchman has given us, or some device from the laboratories of our mental scientists. For these new engineers of the mind, our psychologists, are beginning to furnish us very practical aids for securing the thing we all want above everything else in the world: self-mastery, personal power, self-control. Just as science has recently disclosed that the chief health- and power-giving ray of the sunshine, the ultra-violet, has been shut out of our houses because its vibrations are too high to penetrate the barrier of the window-glass, against which its joy and healing have been vainly beating, unseen by our physical eyes, through all these centuries; and just as science has now given us a kind of glass through which this energizing ray may stream and fill our homes with all its tonic efficacy, so the science of the mind is penetrating deeper into our mental structures and literally devising new "windows of the soul," through which its latent energies may flow and vitalize our lives to nobler and more copious fulfilments.

These mental scientists have shown us that the greatest power in the world is not intellectual power but moral power. And this moral power is possible to us all anywhere under all circumstances and at any time of life. You may never be a great intellectual genius, but you can be a great moral genius. Every moment you think clearly about truth and honor and devotion and gentleness and generosity and neighborliness and cleanliness and fair play and things of good report, you draw upon those untapped possibilities of moral power within you and, to just that extent, you build up your powers of achievement, influence and will. It is for you and you alone to "think upon these things." And just as surely as you do, you will find that you exalt your mind to new motives, enthrall your heart with new enthusiasms, and endow your soul with its rightful tranquillity, grace and power.

And in the end, when psychology has had its say, you will find that it all goes back to what that old Hebrew prophet said. As you think in your heart so are you, for out of your heart, your thoughts, proceed all the energies and purposes and issues of your life.

CHAPTER XIII

HE KNOWS THAT POPULAR NOTIONS ARE ALWAYS WRONG

POPULAR notions are always wrong. They *have* to be wrong. It is a psychological necessity that they should be wrong. This is, in most cases, because they are based on observations of the exceptions to the general rule of things and a guess as to what causes the exceptions. There are other reasons why popular notions are of necessity wrong, but this is perhaps the chief reason.

The general statement does not apply without qualification to notions of art and religion. In the first place, notions of art and religion can not, as a rule, be verified. We can not set up experiments in them and thus determine whether they are true or false. Second, art and religion are, in the main, emotional and subjective. The test of religion, as John Burroughs said—and the same is largely true of art—is whether or not it is satisfying, consoling, exalting; whether it gives us courage that life and the universe may be trusted; whether it gives us a feeling of safety and inspires us with the hope that, no matter what may be the vicissitudes that surround us, we are living in a friendly world.

However, as Burroughs further suggests, when we separate the attitudes and emotions of religion from its theology and cosmology, then religion, just like any other set of concepts such as politics or economics or physics or chemistry, must answer the awful question, "Is it true?" Do these concepts of God and immortality and sin and righteousness represent what is really true in nature, or are they merely what Mrs. Malaprop might call ''pigments of the imagination''? Though I hear the statement often made that in this age religion is losing its hold on men, I do not believe it. Science has indeed demonstrated that the old notions about the external world, around which ancient religions built their ceremonials and schemes of salvation and methods for appeasing divine wrath and engaging divine favor, were wrong. But I believe that science has given us a far better and safer world upon which to rest our religious as well as our artistic emotional life.

However it may be with art and religion, all popular notions about matters of fact and natural law that have not been tested and corrected by science are, of necessity, wrong. If a man had made this statement three or four hundred years ago, he would doubtless have been burned at the stake. It would not take a great deal of manipulation of crowd psychology to induce the mob to burn him even now. Civilization does a vast deal for both the body and mind of the educated man, the man who can think for himself, who has ideas of his own. It does a vast deal for the bodies of the uneducated and half-educated, but it is doubtful if it does much for their minds. The masses still think in the same old ruts and formulas; and it doesn't take more than a few slogans and emotional appeals to start them shouting for blood. That is why education—the specific education that includes the open-mindedness of science as its basic mental habit—is the sole salvation for men in this world, whatever may be their salvation for a world to come.

The statement that such popular notions are invariably wrong is received by most people, particularly the half-educated, with great surprise and incredulity. Let us notice, then, a few popular notions and see if there be any evidence to support such a broad generalization. Of course, every one, even the most highly educated, when he looks about him finds his mind is cluttered up with a great many general impressions that are entirely wrong. When I begin to examine some field of science entirely new to me I always have many of my vague general notions immediately upset. Indeed, if this does not happen, I grow suspicious that I must surely be on the wrong track and retrace my steps and try to grow more cautious and critical.

A score of popular notions that are wrong will leap at once to the mind of any scientifically trained person. Let us take the notion, very generally held, that opposites marry each other. A great deal of work has been done upon this notion, and one of the surest conclusions you could find anywhere in science is that there exists a strong tendency for like to marry like. It is a tendency that runs all through nature. I do not mean that it always happens. I doubt that anything *always* happens in nature. The physicists now assure us, and I suspect they know what they are talking about, that even the law of cause and effect is not entirely true! Some things happen, so they say, without any cause, and some causes do not produce effects that are in any way related to them. This does not mean that we shall not continue to dodge, or try to dodge, automobiles or avoid striking our neighbor's nose. But it has waked us up to the fact that we no longer dare say that anything in nature is more than a tendency—the most usual and conspicuous way of occurrence. Indeed, the scientist knows that he must expect the unexpected. In his present limitations of knowledge he realizes that nature may start in at any moment to cut up all sorts of antics he did not anticipate. He will surely find this happening if the doctrine now called "emergent evolution" be true, and I regard it as the most promising philosophy of nature yet evolved. But even with the law of cause and effect jolted out of place and the introduction of what the mathematical physicist Heisenberg calls ''the principle of uncertainty,'' he knows he can still depend upon things turning out generally according to Hoyle.

So it is with the tendency of like to mate with like. It is merely a tendency. Brown-eyed people, of course, often marry blue-eyed people, but they marry the browns *more often* than they do the blues. On the average, the talls marry the talls, the bigs the bigs, the smalls the smalls; the leans marry the leans and the fats select the fats. Even the popular notion that ''nobody loves a fat man'' is not true, because a great many fat women are inordinately fond of him. There is a tendency for intelligent people to select intelligent mates, although this fine tendency is often upset by wealth, social position and such things as school and college diplomas. For example, a college woman often misses a perfectly good husband of equal or even greater intelligence just because he does not happen to have a college diploma, and vice versa. But with all these mishaps the brights get more of the brights for marriage partners than they do the dulls. Indeed, this is the way nature preserves her breeds.

Since this is only a tendency and is largely emotional and affected by social custom, it does not always work, especially for all human traits. Dr. Charles Davenport, of the Carnegie Institution, has developed evidence indicating that red-haired people do not often marry each other. Also people with high explosive tempers do not marry each other as often as you would expect from their relative numbers in the general population. This is probably because they fall out—very fortunately—before they reach the marriage altar. But by and large, all the way from the amœba up to the genius, nature tries to preserve her breeds by making like attractive to like.

Then how does this popular notion arise that opposites are attracted to each other? Chiefly because every now and then you see a very marked exception. You see a tall man with a very short wife, or a fat man with a very slender wife, and so on. And when this happens the unscientific person exclaims, "The long and short of it! Just as I have always said, opposites always marry each other." He has merely noticed the exception to the rule. And this is one of the main psychological bases of all uncritical popular notions. It is very much the same psychology that causes an occurrence to make news. A thing is not news that is happening right along. In the famous saying of Charles A. Dana, if a dog bites a man it is not news, but if a man bites a dog, that is news. And an enormous number of popular impressions have grown up out of this same tendency to take notice of the unusual. Against it the educated man is for ever on his guard.

It would be easy to list any number of such notions. We might examine the almost universal belief that cousin marriages produce defective children. It is true that now and then where cousins marry they do have the misfortune to produce an imperfect child. Scientists know, however, that it does not happen any oftener than would be expected from the circumstances. Therefore, when it does happen, although the mere fact that parents were related by blood has nothing to do with the defects in the child, it seems to the unscientific person to be a plausible explanation. It is a complicated matter, but Professor Edward M. East, of Harvard, has shown that if the ancestry on both sides is about as sound as the average, cousin marriages do not result in imperfect children any more often than other marriages. In fact, an undue proportion of the world's greatest geniuses have been the result of cousin marriages, because the parents brought together so many virtues of a similar kind. The child thus gets a "double dose" of these excellent qualities. However, just because now and then a defective child comes from a cousin marriage, people notice this exception, and they have even gone so far in many states, and in some religions, as to forbid the marriage of cousins. Hardly anything could be better for the race than for cousins who have sound ancestry for the previous three generations to marry each other and produce a good-sized family of children. All the great breeds of horses, cattle and other animals have been built up by inbreeding of the closest kind, with the discarding of culls and runts when they occur. In this way the stock soon becomes extraordinarily pure. Almost no defects are left in the blood. Thus the breeder builds up a great race. Should the moral codes of men ever incline them to put some of these facts of nature into practise, even in a modified form, in the human family, it seems obvious that the same physical and mental improvements would follow as in the lower animal forms.

It is impossible to take the space to examine and refute all the numerous popular notions that come to mind. One of the most popular, especially in America, is that the royal families of Europe are a very stupid and defective breed. I have examined this notion in great detail in my book, *The Fruit of the Family Tree.* It is true that more defectives have appeared in the Bourbon and Hapsburg families of southern Europe than we find in the average family. As Dr. Frederick Adams Woods has shown, this is due to the fact that insanity and other defects were married into the families in Spain some three or four hundred years ago, and the numerous intermarriages have kept these defects running on down in the stream of blood. The flaws could easily have been married out of the strain had they known enough to do it or taken the trouble. But, summing it all up, the royal families of Europe have produced more truly great men and women, men such as Gustavus Adolphus, William of Orange and Henry IV of France than any other families of similar numbers that we know of in the history of the world. And in fact, cousin marriages among the good royal stocks have been one of the chief causes of this extraordinary amount of virtue and intelligence.

Another popular belief that I find causes astonishment and often a strange antagonism if you disagree with it, is that most of our great men were born in the country. It is one of our dearest national traditions. Along with it goes the idea that the majority of these great men had the ''advantages'' of extreme poverty during boyhood. It happens, however, that a majority of the world's great men and women have had fairly well-to-do and even wealthy parents; and nearly three times as many of them, in proportion to the relative population of country and city, have been born in the city as the country. The misconception arises from two causes: first, it is such a rare exception for a man born in the country to rise to eminence, and also for the son of ''poor but honest parents'' to become famous; second, uncritical people do not stop to count how many people live in the country and how many in the city nor how many are rich and how many are poor. This is the crux of the whole problem. The bare facts do not tell us at all whether the reason lies in the fact that city people and well-to-do people have more brains than poor people or country people, or whether it is because such people have better opportunities.

I think, however, these examples are sufficient to indicate that if we could go on through all general popular notions that have never been tested and corrected by science, we would find them without exception to be wrong. I might cite some more without endeavoring to refute them, all of which have been found upon critical investigation to be untrue. I am indebted here to the most excellent book of nearly one thousand pages entitled, *Popular Fallacies,* by A. S. E. Ackerman, an English scientist. He explodes several hundred popular notions, which many of us have long held among our most cherished mental souvenirs. Combining a few of Ackerman's examples with a number out of my own large collection, we might name the following notions that are wrong:

Geniuses tend to be immoral.
Science is always changing.
Coarse features and coarse hair indicate a coarse nature.
Red hair indicates a fiery temper.
There is such a thing as an undertow.
The good die young.
Statisticians are mostly liars.
A drowning person has water on his lungs.
Geniuses tend to be insane.
Bears hug their victims.
You can read specific traits of character in the face.
Geniuses are mostly neurotic, physical weaklings.
A mother can birthmark her unborn child.
Child prodigies are usually unhealthy and peter out.
Night air is unwholesome.
A snake will not die until sunset.
Snakes can charm birds.
Whooping-cough is more dangerous for adults than children.
Insane people have a wild glare in their eyes.
Shooting a dog will save a person bitten from hydrophobia.
Seaside air has more ozone than other air.

Eating green apples causes more colic than ripe apples.
Backache indicates kidney disease.
Boils purify the blood.
People about to die suffer unusual agony.
Moonlight causes insanity.
Betsy Ross designed the American flag.

One could go on through the whole gamut of popular beliefs that have never been subjected to the critical investigation of science. Even those long ago exploded by science are often almost as widely held as ever. It shows how long it takes to educate the masses. It took hundreds of years of blood and persecution to convince people universally that the earth is round.

No one who has not tried it can understand how hard it is to break down these popular notions. People cling to them as a sort of religion. Recently at a dinner, my hostess was speaking of a famous genius who had been convicted of a grave moral dereliction. ''Oh, well,'' she said, with the utmost assurance, ''it is just what we would expect of a genius; you know, they are all so immoral.'' I asked her if this was not a general popular notion. She replied, ''Oh, yes, of course everybody knows that.'' I said to her that the mere fact that everybody knew it was in itself sufficient proof it was not true, since *everything* that everybody knows and that is generally believed about matters of fact and natural law, except the few beliefs that science has been able to ''put over,'' is wrong. The ''accumulated wisdom of the ages,'' in so far as it is due to popular explanations of natural phenomena, is largely accumulated tommyrot. It is the mere fact that gross immorality is such a rare exception among men and women of genius that causes it to be noted by the popular mind as being the general rule. As a simple matter of history, geniuses, both by precept and example, have given us nearly all the fundamental morality that we have. They rank much higher in moral conduct than the average run of mankind.

It is a supremely important moment in a man's education when he comes to recognize, as in itself a fact of nature, that the popular mind is *inherently incapable* of finding the truth about nature. It is a definite mark of an educated man. Popular notions arise from sheer guesses, fears and superstitions of the masses, who can never discover truth and would not be aware of it if they did. If a million people should guess how far it is from the earth to the moon, they would know no more than they did before. Even if some one should accidentally hit on the correct distance he would not know it nor would anybody else. Science is the only means men have ever devised by which they can discover truth or identify it when they do discover it. And science is also the only method by which one man can add his knowledge to that of another man and thus accumulate their findings. Seers and sages and so-called wise men have accumulated a great deal of the wisdom of life, but when it comes to explaining the goings-on of nature we possess no accumulated wisdom except the few scientific discoveries that have been made.

Now, the educated man, and he alone, recognizes this general truth, and he alone sees why it is true. Not only that, he is the only person who applies it to the *whole body of his opinions*. For example, I have myself never been able to see how anybody can, except in extremely limited fields, put much belief in his own political and social convictions. When a man discovers that his most cherished beliefs about the natural occurrences around him, with which he has been familiar all his life, are wrong, when he discovers that his explanations of these common facts are no explanations at all but merely emotional guesses, it shatters his faith—or it ought to—that his explanations of social and political phenomena are ineffably right.

The facts of social and political psychology are among the most difficult to explain that come before the human mind. Yet people work themselves up into the most violent convictions and carry out the most elaborate programs, even going to the extent of war and blood, in their belief that their explanation of social facts is the only correct one. That is why we have so many movements for uplifting mankind and so many uplifters and social meddlers of every color and variety. The advocates of these movements are perfectly certain that their explanation of the most obscure facts is altogether wise, even holy, sacrosanct and sanctioned by God Almighty Himself. As a matter of fact, they are nearly all due to distorted reasoning or lack of reasoning, to the observation of consequences, that seem obvious enough, such as drunkenness, or crime, or poverty, for which a scientist knows very well we do not know the exact cause or set of causes. The educated man refuses to be stampeded into voting for some panacea, usually cooked up by second-rate men, guaranteed to cure these social ills.

It is true that all of us have to vote and act in our social and political dilemmas and emergencies the best and wisest we can. But the truly educated man knows that wisdom never comes from any source except from wise men's heads. As a consequence, he does not try to solve all social and political problems for himself but votes for and puts his money on the wisest man he can find as his leader. All the progress the world has ever made has been brought about by just a few leaders—just a few wise men. You and I had nothing to do with the invention of the telephone, or the radio, or the use of currency to replace barter and personal exchange of goods—one of the greatest inventions of all time; we had nothing to do with inventing the machinery of democracy, or international exchange, or the World Court, or the League of Nations. These are all the products of great minds, and it is for great minds alone to decide their values and workability.

The curious thing is that while the average citizen would not think of expressing a dogmatic opinion about some device to improve the radio, unless he understood the device and the mechanical principles behind it, yet he is ready on a moment's notice with an opinion on the World Court or naval parity. It never dawns on the uneducated man that social affairs, particularly national and international affairs, are matters of the highest technical intricacy. We ought, of course, to learn all we can about such things and we perhaps can not avoid having many vague personal emotions about them, but when it comes to taking a positive stand or casting a vote on them, I, for one, do not see how we can do it with any intelligent hope of being correct.

For example, like most citizens who try to keep their eyes open, I have some notions and emotions about the value of a World Court. But I don't really know anything worth while about it. Any smooth political orator with a number of specious reasons could "sell" me on either side, that is, if I did not *look into his own qualifications for having an opinion.* The citizens of Illinois, for instance, voted violently and overwhelmingly for Mrs. McCormick who is opposed to the World Court, and against Mr. Deneen who seems to advocate it. Well, it would be interesting to know just how much the citizens of Illinois *know* about a World Court, or how much Mrs. McCormick and Mr. Deneen know about it in comparison with Elihu Root, John Bassett Moore or Professor Shotwell. Certainly my first mental operation before I should feel remotely competent to vote one way or the other would be to study the opinions of such men as these with great care and then compare them with those of the Illinois leaders. These great men might be wrong, they may have the wrong temperamental slant, they may not "understand the West," but they do have an enormous knowledge of the nature and implications of a World Court and the history of political cooperation, and their opinions are more likely to be right than perhaps any other opinions on this side of the Atlantic Ocean; consequently I follow them.

As another instance, the average citizen votes with great decisiveness on a problem such as sterilization or birth control or some other phase of eugenics, but what is his opinion worth compared to those of such men as Jennings, Morgan, Davenport, East, Pearl, Holmes, Popenoe, Johnson, Woods, Conklin, Giddings, Ross, Fairchild and similar wise students who have devoted their lives to an examination of these and related problems?

The educated man on *every* public and social question asks himself with great earnestness: *"Have I a right to an opinion on this matter?* If not, where can I find the men and women who are most competent to have an opinion? If the persons most competent in the matter have come to no conclusions, if they disagree among themselves, then how in the name of common sense am I to come to any positive conclusion with any assurance that I am right? Unless I am willing to make an exhaustive study of the question and fit myself to hold original views then I shall *hold no opinion* in the matter at all and take no action unless some violent political upheaval compels me to do so. In that event I shall vote in the interest of *doing as little as possible* until we can be assured of competent guidance by wise men who have the right to guide us."

I do not see what possible objection there can be to this social and political attitude. It is the attitude of the educated man and the only attitude that I can reasonably take. I can not decide for or by myself what this whole nation should do about some great international matter, but I can be dead sure there is no sense in putting at the head of the Foreign Relations Committee of the United States Senate a man who, according to the newspapers at least, has never been in a foreign country! I can vote against sending to Congress a candidate whose highest achievement in the world of practical affairs has been to keep a crossroads grocery several miles from the railroad and who during the campaign has been courting a lady I know to be a moron. I can not always obtain the facts about a man's competence to be a leader, but I had far better devote my time to finding the qualifications of the various proposed leaders than to try to become competent to judge all social and political questions for myself. I know, for example, that my friend Congressman Albert Johnson, who has had broad experience in national affairs and has been studying the immigration question for over twenty years and who is a man of high mental capacities to start with, knows vastly more about immigration than I do or than ninety-nine and nine-tenths per cent. of the American people know. Consequently I am content to trust his guidance, knowing him to be a man of the most intelligent patriotism.

I could go on with hundreds of other instances but it all simmers down to the question of finding out *who has a right to an opinion.* The uneducated and the half-educated have very loud and positive opinions on a hundred and one matters they really know nothing about, matters on which they have no right, no *moral* right, to an opinion. And a thousand or a million or a hundred million such opinions are of no more value than one opinion. As John Ruskin pointed out, you may see a thousand people who know nothing about art gathered around a painting. They may be enchanted or disgusted with it and praise or condemn it extravagantly. But all this has *nothing whatsoever* to do with the question: "Is it or is it not a work of art?" Let one man come by, trained in the fine arts, and one glance from him is worth more than all the untrained opinions in the world. As Shakespeare said, it is the judgment of that *one* whose opinion outweighs a whole theater of others.

This matter of the right to hold an opinion is forcibly illustrated by a story told of the painter James McNeil Whistler. Some wealthy woman had purchased a painting and thinking she had been cheated as to its authenticity as a work of art she asked Mr. Whistler to act as a witness in the case. After taking his place on the witness-stand and being sworn in the judge asked him a question about the picture. He took just one good look at it and gave his answer. This was all and he was excused. The lady then bustled up and exclaimed, "Well, Mr. Whistler, how much do I owe you for your testimony?" The painter replied, "Oh, I suppose about a thousand dollars." "Why," exclaimed the woman, "you don't mean to charge me a thousand dollars for just a moment's work!" "Oh, no," replied Whistler, "not at all, I charge a thousand dollars for the labors of a lifetime."

The curse of the world is uneducated and half-educated opinions that are carried into action. It all goes back to the importance of a man's beliefs. His actions are the outcome of his beliefs; and if his beliefs are based on anything except experimental evidence duly weighed and attested by scientific procedures his action in the majority of cases is bound to be foolish and destructive. What the world needs is wisdom, and wisdom does not grow out of ill-informed explanations of natural or social facts. Just as Whistler's opinion of a picture, or Shakespeare's opinion of a drama, or Lincoln's opinion of a political situation, or Millikan's opinion in physics, or Wilson's opinion in mathematics, or Welch's opinion in medicine, or Morgan's opinion in biology, or Thorndike's opinion in psychology, or Giddings' opinion in sociology, would be worth more than all the so-called public opinion in the world, so the educated man does his utmost to discover who his rightful leaders are and then trusts them with his practical and intellectual fortunes.

It is true that we hear a great deal about public opinion. That is in itself largely a popular notion. There is scarcely any such thing. There is public prejudice, public emotion, public greed, public stupidity, public hatred, public intolerance, but very little that could in any true sense be called logical opinion based on experimental knowledge or true historical or social perspective. The crowd, for example, is never skeptical. But, as Huxley said of the scientifically educated man, "For him, skepticism is the highest of duties, blind faith the one unpardonable sin." The crowd thinks only to the extent that its leaders think. The crowd, of itself, never did an intelligent thing in the world's history. It can be led to massacre as easily as it can be led to prayer, to rapine and arson as readily as to constructive peace.

I think however we can depend upon a few things: *people generally want to be good.* In this age science has sufficiently educated the people to prefer to be decent, to some extent tolerant, to get along peaceably, to rear its children well and make the world a little better. The leaders can capitalize these facts much more than they have done to the world's benefit and their own. The educated man, whether he be a leader or a follower, can aid mightily in this happy social process. That is his highest function as a social being; that is the responsibility of the high office into which his acceptance of the great heritage of human culture has ushered him; and only when he has recognized that popular notions not the outcome of science are basically wrong and misleading is he fitted to enter into the duties of the sacred social office his education has bestowed upon him.

CHAPTER XIV

You Can't Sell Him Magic

When I was a lad in college, a friend of mine and I went through the southern states selling Shakespeare to innocent bystanders who could be induced to subscribe before this excellent author should be out of print. Theoretically we *gave* the Shakespeare free of charge as a premium donated by the company out of its goodness of heart to those who signed a contract which entitled them to buy a whole library, should they ever wish to do so, at an appalling discount, "all for five seventy-five," or "bound in Turkish leather, with gilt top and edges to keep the dust off, eight twenty-five."

During our spirited campaign for the spread of culture, we were deeply interested by the old negro mammies, who, we were solemnly informed, were "studyin' policy." It was in the old lottery days, and we found this meant that the mammy, when a visitor entered the door, would cry out, "Give me a number, give me a number!" The visitor instantly called out the first number that popped into his head. The procedure was very much like the word-reaction tests the psychologists now give in order to get at our day-dreams. However, if the visitor happened to speak before the ceremony was over, the charm was broken. Numbers uttered after the chain of magic was thus rudely short circuited had lost their "power." But the ones that came through with the hall-mark on them, were sold by the mammies to people who used them in buying lottery tickets. Many instances were related where they had proved their value in cash.

Now, one of the most appalling things a man somewhat trained in science meets with to-day is the astounding number of people who study life and business precisely as the old mammies studied policy. It would be amusing if it were not such a tragedy. One is not surprised that ignorant people should indulge in this pleasing exercise of occultism, but the discouraging thing is the vast numbers of people who look all right, who appear to have nothing the matter with them and who have been exposed to education, and yet are trying in the same way to get something for nothing out of the universe. They believe in luck, charms, signs, special days, black Fridays, blue Mondays, unlucky thirteens, numerology, astrology, palmistry, black cats, and numerous other relics of the Dark Ages.

Personally I always choose number thirteen whenever I can, not because it is luckier than any other number but because so many people are afraid of it that extra precautions are taken to make it safe. People go out of their way to preserve me from my folly and insure me against accident or loss. I thus get a great deal of accident insurance free of charge.

Not long since I read in a magazine a passage which stated that strychnine was an excellent tonic because it "set the white corpuscles of the blood to vibrating in harmony with the atmosphere on the planet Mars!" I wish I could recall the name of this particular magazine but there are any number of them on the news-stands to-day devoted to the sale of magic. They have enormously increased in recent years both in numbers and subtlety of appeal. Even our great national magazines that are ordinarily free from such vacuous, hedonistic, narcotic, soporific, somnambulistic bosh, occasionally stoop—maybe they don't know they are stooping—to publish this sort of magic pure and simple. Two of our great national magazines recently had articles, one devoted to numerology and one by a famous female astrologer, which left the unwary reader in the belief that such ''science'' could be relied upon to bring the devotee good crops and gifts of money, overcome his enemies, cure his diseases, and tell him the trend of the stock market. Another monthly that often devotes a great deal of space to very good popular science, recently gave several costly pages to the advocacy of reading character by handwriting.

I picked up a magazine recently from a news-stand and discovered three remedies for some of life's little irritations. The first was: If you have a cow that is sick, take a stone that is about half buried in the ground and let the cow's milk fall on the underside, place the stone back without breaking the soil around it, and the cow will be well before to-morrow morning! Remedy number two is of especial domestic value. If you have a boy who has run a rusty nail into his foot, take this nail,—not some other nail, but this particular nail,—find a place where the ground is very hard and dry and drive the nail to the head, without cracking the soil, *just at sunup,* and there is no danger of the boy contracting lockjaw. The third remedy is a somewhat more athletic procedure. It advises that if you will swing a dead cat around your head by the tail just at midnight, it will remove warts! Observation and some experience inclines us to the belief that a live cat manipulated by this centrifugal procedure would be most effective in removing anything within its sphere of influence.

One could multiply these silly examples by the thousand, and just by reason of their numbers they are appalling in an age when a great many of the magical cures require a certain amount of science to concoct them! I am forced to say that if I thought I was living in such a universe, I would be afraid to live in it.

It has been both annoying and depressing to me to learn of the number of people who have surging within their bosoms some great scientific discovery or theory for putting salt on the tail of the millennium and bringing it to hand without delay, and who have written books and pamphlets about it, mostly privately printed. As I have written and lectured somewhat on the humanistic side of science, I seem to appear to these well-meaning people as a heaven-sent opportunity for making a convert or getting a contribution. Since rent in New York City costs from two hundred to two thousand dollars a room per year, I have been unable to afford the luxury of preserving all of this flood of priceless contributions to science and literature. Mrs. Wiggam and I were for a long time puzzled to find a caption under which to classify it. We studied the thousand or more classifications devised by the American Library Association but did not find any that seemed altogether satisfactory. We finally devised one that has proved very helpful and which seems completely descriptive: "The Literature of Fools."

These contributions range all the way from descriptions of love philters, how to raise money by prayer (the latter by one of the most distinguished literary women in America), a chart of the "The Great Life Cycle," beginning with the Garden of Eden and ending with the "Second Cataclysm," "based on Scripture and Science" (copyrighted and written by the head of the Department of Biology of a large college!)—they range from this, up or down, to the reading of character in the face and body, and the predetermination of sex. In fact health, sex, character reading and the problems of eternity are the fields that seem most frequently to engage the attention of these creative intellects.

One or two other examples will suffice. Happily, as a typical illustration, in this morning's mail comes an urgent invitation to join "The World Wide Fasting Movement—The Most Basically Spiritual Movement Ever Undertaken On Earth." Certainly an extraordinary opportunity both to save souls and money! This interesting document informs me that fasting is the "key to world-wide regeneration" and that the "Hypnotizing and Re-education of the World's Subconscious Mind by Holding the 'PERFECT VISION' during Fasting, is a Reality." Maybe so. I won't dispute it. I don't know how. Specific directions for holding the PERFECT VISION in leash while fasting are included.

Perhaps the most interesting feature of this world-wide movement to me personally is that its promoters propose to "provide Free Facilities for Fasting in Chicago." I had these facilities provided for me free of charge in Denver when I was a young man just out of college and out of a job. Just what additional facilities for fasting a man who can't pay his grocery bill needs is not immediately obvious. The recent crash in the stock market must have seemed to these godly people as a special dispensation of Providence to forward their enterprise. One of the most illuminating "inside" statements in this invitation to help regenerate the world is that "fifty multi-millionaires in Wall Street secretly fast." There may be some truth in this since the unpleasantness of last October.

The regeneration of the world has engaged my attention for a number of years, but just how to bring it about has not as yet become altogether clear. It is truly comforting to see how easily it comes to some people. I have a whole shelf full of simple schemes for doing it. Like perpetual motion machines, there is nothing the matter with them except they won't work. A mere detail such as this is not in the least disconcerting to the promoters of any of the thousand and one forms which magic takes to hoodwink the logical faculties of man.

Of course, the reader who feels he is sophisticated may smile at some of these crass, wooden-headed projects for reorganizing human nature and the universe, yet unless he is endowed with extraordinary common sense or is grounded in scientific methods, he is just as likely to swallow magic or some form of buncombe which promises magic profits without being aware of it. He may be "wise" to this "racket" but "bite" on some other that to a student of science is just as childish. If you doubt this, permit me to submit a market letter that I recently received from a prominent New York brokerage house dealing in investment securities. These purveyors of financial wisdom, and to an immense extent, guides of the public pocketbook, solemnly inform us as follows:

> Too many people buy high and sell low. The only way to obtain your profit is to buy at the approximate low figure and sell when a substantial profit is available.

This is certainly an astounding discovery, a new principle in economic science, and deserves the widest emulation. But the truly astonishing thing is that people pay good hard earned money for this sort of "financial advice." The man who writes the market letters for one of the biggest and oldest houses in Wall Street said to me recently: "I am *always* bullish; the people like it and my employers expect me to write it. Moreover it pays for this reason: if you are bullish all the time and the market goes bearish, people readily pass it by and forget it. But if you once predict a bear decline and the market goes bullish, they never forget it and we lose their accounts.'' Certainly an interesting side-light on economic psychology!

One of the most encouraging things in recent years is the increasing willingness of business men to employ and be guided by scientific research. Still, however, there is a vast skepticism, especially of the science of statistics. I have found the business man is willing to accept statistics, as long as they are mere analyses of earnings, resources, output and things of that kind which, speaking technically, belong in the field of static statistics. This is something he can fairly well understand. But of anything in the field of prediction, that takes into account the living elements and forces of which the to-morrow of business is inevitably the outcome,—anything in the field of dynamic, moving statistics or prediction—I have heard him many hundreds of times say: ''To hell with statistics, you can prove anything by statistics.''

Perhaps the business man is not altogether to blame for this attitude. In the first place he has already bought a great many magical schemes for ''beating the stock market'' and ''breaking the bank at Monte Carlo.'' Most of the people who originated such pleasing methods for picking money off the trees are now either in the insane asylum or the penitentiary, where they should have been before they were allowed to institute their chuckle-headed, addle-pated, infantile operations. Nevertheless, these venerable devices for hoodwinking the greedy, the unwary and the boneheaded are not a whit different in their disastrous financial effects from thousands of the market letters and solemn economic predictions that are being constantly issued by so-called ''financial authorities.'' I was recently informed by a broker who handles some of the accounts for one of the most famous of these economic wiseacres—one who is almost daily issuing thunderous warnings that the market is going to crash, or frantic appeals to buy before the rise which is imminent—that he "managed to sell his market letters for *almost enough* to pay his own losses by following his own advice!"

The second reason why the business man is skeptical of sound dynamic statistics is that he has in mind the so-called "facts and figures" that are bandied about without any valid mathematical treatment in public controversies, particularly in political campaigns and in Congressional debates. As any statistician, trained in the highest refinements of statistical technique, well knows, all of these have nothing more to do with the *science* of statistics than the dome of the average politician's head has to do with the dome of thought, or than the One Hoss Shay had to do with mundane physics and chemistry. Such literary and oratorical statisticians could not construct the simplest table of frequencies and would not know a multiple correlation if they saw it coming down the street. They have no methods for giving proper weight to the facts and figures which they pronounce so trippingly on the tongue; they have no conception of the size of their own "probable error" or how to measure it. As a consequence, their "figures" have no value and their "facts" no significance.

Most of these magic salesmen are not charlatans but belong among that most dangerous of all persons who have any degree of public responsibility—much more dangerous than the downright ignorant—the half-educated. They really carry in their heads an amazing amount of facts and figures. They will talk to you with genuine knowledge by the hour about the history of the market, how this or that corner was engineered, what happened to commodity prices five or ten years ago, how the market went up or down when this or that happened, but in the end they do not have any single, unified, logical, mathematically weighted judgment. And this is the only kind of judgment that is worth a hoot in the field of prediction. I believe every genuine economic analyst will agree with me when I say that I think nothing could possibly add more to the financial well-being of this country than for the proper authorities to require that every man who issues a market letter or in any way publishes any statement that may influence the public in the investment of savings or business men in the management of undertakings, must take an adequate course of training in the true *science* of statistics under some such man as E. B. Wilson, Karl Pearson, Truman L. Kelly or Professor Chaddock, or else must derive the background of his published judgments from men who are so qualified.

I am convinced that until some measure for regulating dispersal of financial information is put into effect, one of the largest fields of public welfare, namely, economic statistics, will remain chiefly in the hands of the half-educated, which is worse than having it in the hands of ignoramuses, and just as bad as having it in the hands of charlatans. And until this is done, the business men of this country will continue to buy magic and economic bunk as they are doing every day with childlike innocence, and, indeed, often with positive pride.

CHAPTER XV

YOU CAN'T SELL HIM MAGIC

(Concluded)

ANOTHER fruitful field for the magic salesman and for the purchaser of magic is ''character analysis.'' It would require a volume to submit the experimental disproof of the claims made that traits of character can be accurately read at sight in the human face, head or body. I shall have to refer the reader to studies by such men as Hollingworth, Poffenberger, Cleeton, Knight, Kitson, Thorndike, Adams, Murphy and Pearson. Every scientific study that has been made has come to the conclusion that there is *no relationship between any shape of head or configuration of face and any mental trait whatsoever.* We can say with a great deal of experimental evidence that there is no true science of character analysis, except that of prolonged observation and laboratory experiment, including the most careful tests of intelligence, temperament and will, correlated with every possible scrap of knowledge of the subject's schooling and personal history. Even these are far from satisfactory, and are never depended upon by scientific men for anything more than a first approximation. They have great value as a beginning in classifying employees, school children and college students and in giving advice upon vocations. But they are never final in the hands of real experts and are subject to modification by further observation of the subject's behavior.

Young people who accept offhand judgments and choose their careers on the advice of some "character expert" and employers who purchase such methods of selecting employees are not being "experted" but exploited. The most exhaustive and careful experiments have found no relationship between any type of head or face, and such things as trustworthiness, honesty, will power, intelligence, assertiveness, perseverance and the like.

Large lustrous eyes may indicate intelligence, but I have tested a great many people with large lustrous eyes and found them feeble-minded. Coarse hair does not indicate a coarse nature, and red hair does not indicate a fiery temperament. Blonds and brunets are equally good salesmen, buyers and executives.

Deep perpendicular lines between the eyebrows may indicate concentration of thought. They may also indicate stomachache.

Close-set, intense lips may indicate either executive capacity or kidney trouble.

A big chin may be a "fighting chin"; it may also indicate that a big strong-boned man married a delicate little woman and that the child inherited a chin from its father too big for the rest of its head. It may also indicate the beginnings of serious disease of the pituitary gland. If you notice your chin bones getting any bigger, better consult your doctor.

I have before me one of the most widely used systems of character analysis from which I cull at random a few statements:

> An arched nose does mean aggressiveness and ability to originate. The long and thin and refined nose indicates the student, the slightly elevated nose shows imitativeness, and the turned over nose, bending in toward the upper lip is the congenital grouch's appendage. It would break this fellow's face to smile or

hold a kindly thought. One's ambition increases as the bridge of the nose elevates, et cetera.

Mouths, chins, ears, hair, finger-nails, paunches and every other bodily feature are analyzed with equal certainty. Not a single experiment is cited, nothing, in fact, but the author's opinion.

Consider this impressive statement in this imposing set of volumes: "No field of intellectual pursuit now offers better opportunity than the study of character analysis. It is one profession that is not overcrowded at the present moment." It seems to me quite overcrowded as long as there is a single person in it. Recently a young college graduate came to solicit me to go into partnership with him in "practising psychology." I informed him I was not a psychologist and had no equipment for practising psychology. He said he had just missed a great opportunity by not going into partnership with a very famous psychologist. I asked him where this man lived. He replied, "At the Waldorf-Astoria." In reply I said, "My dear friend, if he lives at the Waldorf-Astoria I think you can be pretty sure he is a faker. I don't believe any honest psychologist ever made enough money to live at the Waldorf-Astoria."

I recently sat next to a gentleman at dinner who informed me he had worked for ten years with one of the most widely advertised character analysts and when I expressed some doubts of this gentleman's real success he replied heatedly: "He has not made a mistake in reading the character of a single human being in forty years." How such a man is allowed to run at large is difficult to imagine. The one thing that no one has been able to answer is how these wise gentlemen—and ladies—*know the requirements for every kind of job.* There are about three thousand occupations now listed in the census report. Only a few of these have ever been analyzed so that anybody knows what are the real qualifications for success in them. Yet the ''experts'' unhesitatingly tell you just which one you are ''cut out'' for.

The thing that saves our character-analyzing friends is the fact that nearly every one can do an amazing number of things successfully, and so the analyst's advice has perhaps a little more than a fifty-fifty chance of seeming to fit. But if we could get down to a real analysis, probably almost every one would succeed somewhat better at some one thing than at any other. The aim of vocational science and psychology is to find what the one thing is for as many people as possible. Until vocational guidance is very widely adopted in our schools and shops, our friend will doubtless be correct in asserting that character reading from the face and body is one of the best professions now open, although I should not term it an intellectual but a financial pursuit.

Until this is done character analysis will continue to be another one of those fruitful fields where magic is for sale by both the ignorant and the half-educated and where the ignorant and the half-educated will be the principal purchasers.

The greatest difficulty in getting rid of the half-educated magic vendor is that he is usually not a charlatan. He is full of honest enthusiasm for his profession, but he does not have the technical knowledge or the scientific open-mindedness to see his own errors. It is almost idle to argue with the half-educated person, because he has the chronic habit of ''proving'' broad general theories by citing particular cases. That is the trouble with the telepathy provers, the mind-reading provers and all such easily convinced persons. I long ago found you can not argue with them for two reasons: first, there is no common starting-point, and second, you can not in a moment educate them in scientific method.

This tendency, indeed this passion, of the uneducated and the half-educated to buy magic has such enormous implications it deserves a volume. Some time ago I was seated at dinner next to the head of one of the great advertising firms of the country. He told me that a few years ago a man came into his office with a small article of daily household use and told him he wanted him to get up a national campaign to advertise it.

"I said to him," remarked the advertising manager, "that it was not in any way different from thousands of similar articles and brands now on the market, and I asked him how he could say anything new or different that would specially recommend it. He replied that he was going to call it the 'Health Article.' Well, we began the campaign on it as a health article and, believe it or not, while it has no special influence on human health, we have, not hundreds, but hundreds of thousands of letters from people all over the world who report they have been cured of nearly everything under the sun by its use! I don't believe we have any reports of its having cured tuberculosis or cancer, but it has cured nervous breakdown, indigestion, rheumatism and scores of other diseases, according to these testimonials."

Not long since I had occasion to lecture in a health resort city where there were thirty different kinds of mineral springs. I was shown a long list of minerals that characterized each one of the various kinds of waters, and a huge pile of crutches, discarded by the people who had been cured by the magical properties of these "natural minerals." I was deeply impressed, until later I visited another health resort, which exhibited an equally large pile of crutches; and the great claim there was that there was nothing in the water at all, except just water! These waters were entirely free from "dangerous and injurious natural minerals," and because of their extraordinary "purity" they worked incredible cures.

Science is still very ignorant of many of nature's laws, yet we must remember that all the pot-boilings, stewings and incantations of the alchemists, and the solemn "meditations" of the mystics and occultists, never gave us a single chemical or industrial process, whereas a few chemists, by discarding magic and searching for nature's own ways of doing things, have transformed the world.

This passion to buy magic affects not only individuals but nations. One of its most dangerous forms is the delusion of government-made money. Half the economic troubles of Europe to-day come from the belief of politicians during the Great War in the magic power of government to create values by stamping a piece of paper and calling it money. It will take us generations to recover from this mad orgy of magical money-making in plain defiance of economic laws.

In my student days, as I vaguely recall, we studied something that was called political economy. We had a text-book written by General Amasa Walker. I have no idea whether it was a good or a bad text-book, but one sentence still remains stamped indelibly in my memory. That sentence was: "To my mind the final proof of the supreme intellectual greatness of Napoleon Bonaparte was that for twenty years he carried on war against all Europe and yet never issued a dollar of debased money." When a nation debases its money it debases its character. When it adulterates the people's medium of exchange, whether it be wampum or copper or gold, it adulterates its national ideals.

And the same is true in the life, character and education of a man. There is nothing more debasing than trying to get something for nothing, than the effort to secure wealth without labor, in short, than the belief in magic.

As a matter of fact, eternal vigilance is the price every man must pay to prevent himself from being sold on some kind of magic. As I have said, he may be wise to one game and wager his convictions and money on some other; it may be a political panacea, an economic cure-all, a religious scheme of salvation, an electric belt or an educational fad or fancy. Just now I think the American people are immensely oversold on the magic of education—not education precisely, but on schools and colleges and the paraphernalia, curricula and mechanisms of education. The notion, for example, that everybody should go through the eighth grade or high school or college or even remain in school until the age of fourteen or sixteen years, is just a piece of magic. The notion that education, if we mean by that formal school attendance, is a solution of the problems of either life or democracy is pure hokum. Education is our best bet for a solution but mere school attendance is not. Education and school attendance do not have any perfect association with each other. There are so many constructive things going on in education that I fear this may be mistaken for a wholesale indictment of our schools. It is not. But there is, nevertheless, a lot of magic for sale in our school systems.

I should say, in a broad way, that just in the proportion a school system teaches young people things and habits they *use* extensively in later life it is to that extent educative; the children are really going through a process of education. On the other hand just in the proportion that a school system teaches things and habits that are never used afterward, that do not fit the pupil effectively and happily into the living institutions and culture of his time, to that extent the system is a purveyor of magic. The notion that culture results in some mysterious way from parsing Latin sentences or declining nouns, or digging for Greek roots is just as much a piece of magic as the mystic words the South Sea Islanders thought they needed to make their boats float on the water. You remember the story. They continued to build boats and go through all the violent labor and exercises necessary, but the boats were allowed to rot on the beach and the people remained in poverty, because the old priest who possessed the magic words that would make them float had died of colic or appendicitis or something so suddenly he had not had time to pass the necessary incantations on to his successor.

Of course, if a man has gone through any of these survivals of fetishism, thaumaturgy and general educational witchcraft, he can, when in polite circles, pronounce some of the magic formulas; if he have an extraordinary memory, he may guess vaguely at what the speaker of the evening meant when he quoted eight or ten words in Latin from Sallust or Ovid and may have a little idea of what is meant by a sine or co-sine, but the notion that any large number of mature citizens who heard of these things in school or college will have used them sufficiently as agencies of living and processes of life for them to be called culture is again just so much magic.

Anybody in America to-day can get a whale of a lot of education during his lifetime, education that becomes a genuine aid to his life, if he wants it badly enough to make the effort. I believe it was Disraeli who said, "A man can have anything he wants in this world if he wants it badly enough." I think this is true in the field of learning, in the fields of appreciation, of self-development, of self-control. But to imagine that there are magic formulas able to transform the trivial mental exercises of the schoolroom into the coherent body of life's solutions, insights and controls that constitute true education—the education that gives a man mastery and freedom—this belongs in the realm of demonology and voodooism. If a man should try to sell refrigerators to the Eskimos and woolen mittens to the inhabitants of the tropics, it seems to me he would be in the same position as the curriculum makers in our schools who are to-day actually selling dead and foreign languages and geometry and trigonometry to the boys and girls and their parents—indeed taxing them and compelling them to buy—under the double delusion that they are in some mysterious way "solving the problems of democracy" and "fitting the boys and girls for life." Various surveys and educational measurements have shown that at least seventy-five per cent. of the young people will never use these things or in any way refer to them during their whole lives, that scarcely one out of a dozen ever learns them to start with and that at least eighty per cent. of what is partially learned is forgotten and has to be learned over again before the learner can bring it into practical use, in the rare event that he ever should want to use it!

Let me hasten to assure you that I don't know what boys and girls ought to learn. I don't know how to educate them. I don't know anybody who does know. Some of our educators have, by prolonged study and *experiment,* developed some good ideas about it. These men ought to be our chief guides. I don't see how you can tell what is good for the human body without a great deal of experiment, but every one seems to think he knows intuitively what is good for the mind, just as every one knows what is good for politics. I have very little idea what is good for the human mind or what are the exact subjects and processes that will do it the most good. Consequently *this book does not deal in any sense with experimental education or with processes of education.* That should be left to experts and *to nobody else.* They don't know very much about the matter but they know more than you or I. But I do know enough about life in America to-day to know many things that are not necessary to know and that would do the vast majority of people no good to know. Formal school training has no function or excuse except to fit a man into the social, industrial and political life of his time and give him mastery over himself and his own work. His ethical and religious life should grow naturally out of this. Yet we do spend an immense amount of time and money trying vainly to teach young people a lot of things that have no value for reaching these desirable ends, things that we know by experiment they forget before they reach these ends and which have no dynamic or constructive relationship to these ends when they do reach them. And to this extent our schools are selling magic.

It all belongs in the same mental and emotional category with the psychology of pink pills. I have long been interested in this problem. Just why pink pills are better for pale people than green, red, yellow, violet, magenta or Italian blue, is an unsolved problem of mental and physical medicine. Obviously, however, the childish passion for humbuggery and getting something for nothing seems inherent in the human constitution. Making a thing appear incredible is the only way to make a great many people believe it. As an old friend of mine used to say, "People are impressed with what they can't see through." A southern book dealer said to me one time, "A negro has no confidence in a book he can understand.'' This pleasing propensity is not entirely confined to the colored race. If you should attend a few meetings of spiritualists or some of the lectures and ''demonstrations'' of the thousand and one forms of polite and well-dressed voodooism which people actually pay money for here to-day in America and see the eager faces of the listeners (and swallowers) you would agree I am not exaggerating when I say that a man with entire ignorance of science, impressive clothes and a good bass voice can put doughnuts over the footlights and make people believe they are looking at the halos of the saints.

I repeat that making a thing incredible is almost the only way to make a great many people believe it. If they can see through it it doesn't amount to much. That fine and scholarly magician, John Mulholland, who has been all over the world investigating spirit phenomena, relates that he attended a spiritualistic meeting where they all held hands and heard various rappings and saw dim ghostly apparitions in the dark for nearly two hours. When the circle was formed and the lights turned out, there was a little empty silver tray on a table in the center of the group. But after two hours, when the lights were turned up they revealed a little rosebud lying on the tray that was not there when the seance began! Everybody was profoundly impressed and mentally exalted at this remarkable manifestation of the ''power'' of the spirits!

''Now,'' says Mulholland, ''if a professional magician should turn out the lights thirty seconds and produce anything smaller than an elephant, those same people would say he was a faker.''

The same old psychology of pink pills and incredibility. It is unbelievable that pink pills are any better than yellow or cure more people for being pink. It is the passion of the ignorant and the half-educated to buy magic, and it extends with a thousand modifications and ramifications into business, politics, education, religion and ethics. People swallow campaign slogans and promises as well as political leaders because of their labels and colors in the same way that they swallow pink pills. Democracy can be carried on effectively, and aristocracy of mind and character be given its proper weight of true superiority only by the small number of critical people who swallow pink pills or campaign promises or ethical or educational formulas solely because of what is on the inside instead of what is on the outside. And the only thing that can teach people to look into the inside of things is education.

CHAPTER XVI

He Links Himself with a Great Cause

It was John Bright, the English statesman, I think, who said, "You should link yourself with a great cause; you may never do the cause very much good, but the cause will do you a great deal of good." I hesitate, however, to urge more people to link themselves with causes for the reason that about half the trouble with this age is that so many people are already boosting so many "causes." Every morning my mail is laden with letters, pamphlets and appeals for money from obscure and unknown individuals with frantic pleadings that I join their "cause" or enclose a dollar—sometimes they modestly request a thousand—in order to get somebody else to join it. These "causes" range all the way from taking care of the children of prostitutes to prohibition, anti-prohibition and clothing nude statues. They include appeals from the reincarnationists, the Soviet Union, the Preservers of the Doctrine of the Immaculate Conception, and what not. Nearly all come from people who are getting good salaries for "promoting the cause." The rank and file usually have little to do with it except for each "member" to send in his annual dollar.

Practically all of these are moralist crowd movements, nearly all of them have as their end either the reorganization of human nature or the transformation of the world. When we get them going full steam ahead we are supposed to find ourselves in the millennium. I haven't any doubt that if they all ever do get going, the world will be *different,* but I have a suspicion that it will be very little better, possibly much worse, and that human nature will remain just about the same. Nearly all these causes propose to ''educate'' people to do this or that—come in when the curfew rings, raise a riot at one-piece bathing-suits, or engage in some virtuous and world-improving enterprise.

''Educating'' people, however, to use more soap or wear porous underwear, or open their windows at night, or use more hair tonic is not what I mean by education. The object of education is, as it appears to me, to enrich human nature, to give it more pervasive interests, to endow it with finer goods of the spirit and furnish it with richer values. Very few of these ''causes'' have this worthy end in view.

I do not believe, of course, that all of them are bad, but the educated man is very chary of most of them. The one cause that has ever brought much good to the world has been education, education about tolerance, and money, and beauty, and nature, and fine manners, and gentle human relationships. The only millennium I can think of, would be a world filled with educated people, people who not only believed in but who lived lives of liberty, tolerance, sympathy and beauty.

The chief trouble with the cause-person, particularly the moral cause-person, is that he is a propagandist, a promoter pure and simple, who can see nothing else in the world except the mote in his brother's eye, and often does not hesitate to distort facts to prove his case. The defect in his brother's nature soon overshadows his whole sky. Soon too he has to have a salary for ''devoting his time to the work.'' The money he collects for promoting the cause is largely used up in office expenses for getting other people to contribute more money for more office expenses. He is practically always a professional optimist, or pessimist, or conservative, or radical. And as I have pointed out elsewhere, "A conservative is a man who believes nothing should ever be done for the first time," and "a radical is a man who believes nothing should ever be done *except* for the first time," and that first time is when his little pet panacea and cure-all is put into effect. That is all we shall ever need. This is the golden key to the millennium.

As a result of all this boosting and promotion the cause is soon in the position of those churches in our large cities that have built office buildings with a church on the ground floor and a spire on top; as the *New Yorker* recently described their income, "half goes to God and half goes to the stockholders." A great many of these causes, one suspects, are not so profitable to either God or the investors, since the promoters seem to get most of the income and the public merely gets a lot of circulars. The chief contributors, euphoniously known as the "main workers," or "leading brothers" become delegates to the annual convention with expenses paid by the local chapter.

At this convention super-heated oratory is released; we-point-with-pride or we-view-with-alarm resolutions are passed, a slogan is adopted, a good time is had by all, and the cause "has been greatly advanced." You rarely get on a train nowadays that you do not see a group of loudly labeled delegates either going to "the annual convention" or coming home from it. In both cases they are full of enthusiasm for the cause. If they can just "put it over" most of our troubles will disappear and the world will be "bigger and better."

A vast deal of attention has to be especially directed to getting the right slogan. An interesting volume could be written on what slogans and war-cries have done for mankind, or rather what they have done *to* mankind. They have done a great deal. "Remember the Maine," "Fifty-four Forty or Fight," "A Million Members by 1931,"—there are thousands of examples. Sometimes these rallying cries have put heart into a nation and saved a worthy cause. But the educated man keeps his weather eye—or rather his weather ear—out for them. To most people they are all-sufficient. They state the case completely. They carry the proof of their own excellence. Getting just the right yell for your cause seems nowadays all important. With the right yell you can "educate" people to arm or disarm, "breathe deep" or not breathe at all, wear clothes or go naked. Indeed many people believe that if we could put sufficient "pep" into it, we could yell ourselves into the millennium.

However, with all this, which gives many well-meaning people a whale of a good time at some one else's expense, there are beyond question causes *and* causes. They seem to me to be of two distinct kinds: reform and social education. Reform practically always means moral reform,—making over your neighbor's conduct to conform to your ideas of conduct. You have no respect for his ideas of conduct, although they may suit him and his family amazingly well. They aggravate you, so they must be "wrong." As John Dewey points out, good children are children that do not bother us. The unique child, the child with ideas of his own, is "wilful," "disobedient" and needs "correction." We do not often stop to inquire *why* he wills in a certain way or whether, perchance, his will might not be in better directions than our own. He annoys us and that ends it; he needs to be reformed. Just so with our neighbors if they don't suit us—which usually means they are having too good a time.

Reforms refer to two distinct individuals: self and somebody else. I have rarely heard of any one getting up a campaign to reform himself or of any group organizing to reform its own members. It is always a scheme for reforming other people. I can not refrain here from quoting a few passages from that wise American, the late William Graham Sumner, formerly professor of political and social science in Yale University. His little book, *What Social Classes Owe to Each Other,* contains more of the true principles of social education and social progress than all the vast theological tomes in existence. We hear nearly every one speak vaguely of his ''obligations to society,'' of his ''social duty''; and, as Professor Sumner points out, most people, particularly those of the reforming type, think one's duty to society is ''a special and separate thing, and that this duty consists in considering and deciding what other people ought to do.'' This educated man goes on to say:

> The amateurs in social science always ask: What shall we do? What shall we do with Neighbor A? What shall we do for Neighbor B? What shall we make Neighbor A do for Neighbor B? It is a fine thing to be planning and discussing broad and general theories of wide application. The amateurs always plan to use the individual for some constructive and inferential social purpose, or to use the society for some constructive and inferential purpose. For A to sit down and think, What shall I do? is commonplace; but to think what B ought to do is interesting, romantic, self-flattering, and public-spirited all at once. It satisfies a great number of human weaknesses at once. To go on and plan what a whole class of people ought to do is to feel one's self a power on earth, to win a public position, to clothe one's self in dignity. Hence we have an unlimited supply of reformers, philanthropists, humanitarians, and would-be managers-in-general of society.*

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*From *What Social Classes Owe to Each Other,* by William Graham Sumner by permission of the publishers, Harper & Brothers.

Even the most tolerant man sometimes has difficulty to refrain from being a bit irritated at the moral superiority assumed by the social setter-to-rights-of-things-in-general. If you do not agree with him you are lacking in moral sensitiveness. He makes you feel you are not so ''good'' as he is. You belong to the morally ''great unwashed''; you lack both sympathy and enlightenment. He is hurt and insulted by your obtuseness; he is a ''friend of humanity'' and you are not. If you say aloud what you very often really think, that he is a social quack, or, at least, an amateur social doctor given, as Sumner suggests, to prescribing remedies instead of to making diagnoses, he merely laughs in your face and pities your stupidity. If you tell him that to your way of thinking the grandest thing in the world a man can do is to educate himself, mind his own business, take care of his family and educate them, you lack so much in ''public spirit'' that a law has to be passed to remedy these startling defects in your nature. If nothing else you must be heartlessly taxed to bring about your own reform!

This brings me to the fact that while there are two *kinds* of reform, namely, reform of one's self and reform of somebody else, there are two *methods* of reform, very distinct in aim, procedure and results. The first is *persuasion.* All I have said has nothing to do with a man persuading his neighbor to improve himself or to join with him in improving both of them. Confucius, Buddha, Jesus, Aristotle, Socrates, Plato, Huxley, John Dewey, Horace M. Kallen, Everett Dean Martin, James Harvey Robinson, the New School of Social Research, have all followed very much this method, and little but good comes of it. You are quite welcome to get on a soap-box and plead with your neighbor to better himself by swallowing your ideas of what is good and worthy; and I for one would let you say on the soap-box anything under heaven you please. If your neighbor has time and wants to stop and listen to you and agree with you, that is strictly his business. If the social reformer stopped there, the only harm that would result would be when his ideas were wrong and his listener found by putting them into practise in his own life they injured him or his family. But the reformer *does not stop there,* particularly the moral reformer; he advocates the second method of setting the world to rights and correcting the mistakes of the Creator, namely, *compulsion.* His neighbor must be compelled to be good, with the reformer as the sole judge of what is ‘‘good.’’

In fact, as Professor Sumner points out with the penetration of genius, nearly all social reform follows a very simple formula. A and B put their heads together to decide what C shall do for D. A and B have been blessed by nature with peculiarly lofty moral ideals and profound social insight, although at present they are out of a job. D is drinking more than is good for him, or enjoying himself at his club entirely too late at night, and something must be done about it. A and B do not plan to do this themselves, they haven’t any money. But C has been industrious and saved up some money, and consequently C, who is minding his own business, must be compelled to do something for D.

Now C, Professor Sumner says, is the ‘‘Forgotten Man.’’ Nobody pays much attention to him except to get money out of him with which to reform not him but some one else. If he refuses his voluntary dollar to the ‘‘friends of humanity,’’ a lobby must be organized at the capitol and the ‘‘moral forces of the State must be rallied’’ to bring C to a sense of his duty and compel him to take care of D and his children. Sunday enjoyments must be cut off from C and his clubs must be closed, so that D will be "removed from temptation."

The vice of all such reform is that the reformer is willing to upset all society. He is ready to divert the savings of industrious citizens from profitable uses, where they keep people in jobs—can there be a better use than that?—to the purpose of befriending humanity according to his particular notions.

Now, as I say, not all reform is bad, nor is all anti-reform, or refusal to reform, good. A society so extremely complex as ours brings a man an infinity of obligations and a bewildering variety of relationships; but he will never get away from the fact that his biggest social duty is not to go out reforming somebody else but to *educate himself,* to seek knowledge, to try to render himself more inspiring as an example, to think and think hard and quietly before he espouses causes or plunges into propagandas, or votes the money out of his neighbor's pocket, or deprives him by organized public compulsion of ways in which he would like to enjoy himself. You may think he is on his way to hell, but as long as he is minding his own business, enjoying himself in his own way and not directly damaging you, you will if you are educated do no more than tactfully inform him you believe you have a better road to travel, or show him by your own life more worthy values for which to live. Only under extraordinary conditions are you justified in using a legislative or social club on him, or organizing society against him, to save him from going to his own heaven or his own hell.

Above everything the truly educated man, whose main body of beliefs are not the outgrowth of emotional prejudices and inherited traditions, but the result of an unflinching effort to face realities, to find facts and evaluate them by scientific methods, does not believe he should be forced by A and B to look after D.

He may voluntarily come to D's aid, if he finds D needs it, or if D appeals to him for help. But in nearly all social and so-called economic reforms, in fact, in practically all moral legislation, C *is* the Forgotten Man. He has behaved himself, fulfilled his contracts, taken care of his family and done the best he could. Yet A and B and their reform organizations feel conscience clear in taxing and fining him, indeed, even throwing him into jail, for carrying on his usual temperate habits,—all not for C's benefit but for the benefit of D! As Professor Sumner concludes, "There is no pressure on A and B. They are having their own way and like it. There is rarely any pressure on D. He does not like it and evades it. The pressure all comes on C. The question then arises, Who is C? . . . He is the Forgotten Man, and, as soon as he is drawn from his obscurity we see he is *just what each one of us ought to be.*"

CHAPTER XVII

HE LINKS HIMSELF WITH A GREAT CAUSE

(Concluded)

DOES all this mean then, that there are no great causes into which an educated man can throw his heart and energies for all they are worth? By no means. There are hosts of them, waiting, calling for the enlistment of all the intelligence and sympathy they can procure. Let us take a very concrete example. Possibly it is not romantic enough to excite our reforming friends A and B, but I think it instantly engages the sympathy and interest of an educated man.

Recently I spent several days with Dr. Herman M. Adler and his able staff of trained sociologists, psychiatrists, physicians and social workers, as the guest of the Institute of Juvenile Research of Chicago, of which Doctor Adler has been the director for many years. This great institution is devoted to pure research into the causes of juvenile delinquency and crime. With a very small budget, partly provided by the state, for which it renders a state-wide service, and partly by private citizens, it carries on an astounding quantity of research of the highest value to *all* citizens. It associates itself with every other social, educational and political agency working for the public good. It does not hesitate to sound the warning of science and the scientific study of social forces against corrupt political or economic practises which it happens to find in its researches are against the public good. Its business is not looking for such things. The Institute does not set itself to *prove* that something is wrong and that somebody has to be clubbed into making it right. It does not interfere with other people's business unless that business be crime or the destruction of childhood. It is not managed by a group of emotional uplifters, social busybodies or morality meddlers. It is carried on by men and women of the highest technical training and the finest social insight, not to promote the millennial panaceas of a small coterie of economic, moral or political propagandists, but for the service, protection and education of the whole people.

To such a cause as this and to such an institution, any man either educated or uneducated, I think, could worthily devote his best energies and intelligence. You can find many institutions and agencies—very few so fine and free from propaganda as this—which should readily and properly enlist the passion and imagination of any one who is really and truly a "friend of humanity," and not a dogmatist determined to force other people to pattern their lives according to his own.

There is not a shadow of a doubt that the vast majority of social meddlers, busybodies and reformers are more or less psychopathic persons who try to reform other people as a defense mechanism against their own weaknesses. There is a great deal of difference between this and a realistic effort to help organize your own neighborhood or society at large for human happiness and benefit. Even these efforts must be scrutinized with the cold objective realism of science before an educated man can lend to them his mental and emotional allegiance.

We see, therefore, no one need lament that an educated and critical caution would cut him out of social service. The prime thing is that the educated man is not swept off his feet by social emotions, even by his own uncritical and uncriticized social emotions. Nearly everybody would like to see the world happier and freer from disease and suffering, but *how to do it* brings us up against the most obscure and complex problems that have ever confronted the human mind. You have to think in order to do anything intelligent about them, and think hard. It is *better to do nothing than do something unintelligent.* Your uplifter cries out, "We must do something!" Your scientist, your educated man says, "We must first find out what to do." The educated man knows that nothing but objective, disinterested research will ever solve social problems.

As an example of money spent because we must do something, instead of finding first what to do, let us take the enormous sums of money that have been expended for tuberculosis sanitariums, both public and private. Many of them have been ably managed and have had staffs of the highest medical training. Yet a prolonged, and so far unquestioned, research has shown that a *larger percentage of people afflicted with tuberculosis who stay at home get well than of those who go to sanitariums!* The homesickness and other discomforts seem to offset the apparent advantages. They have had some educational value, but the same amount of money and effort expended in other ways would doubtless have resulted in more wide-spread education. Of course, so far this has been largely a technical social mistake; but if it is continued, it may become one of those emotional "causes" to which people link themselves in spite of evidence.

The vast sums of money expended for orphans' homes, for state reformatories, the latter usually under political instead of trained scientific and disinterested management, with almost no research to determine what makes orphans, or what makes young people who need reform, or how to rebuild character and reeducate juvenile habits—these are other cases of emotion preceding knowledge. So many, many people possess this easy willingness to spend other people's money with a glowing satisfaction that they have carried out their "social duty" and done somebody a lot of good. I always feel profoundly suspicious of anybody who approaches me with the avowed object of doing me a great deal of good.

I could cite hosts of other instances. I spent yesterday afternoon with one of the keenest economists in America, a man who for years analyzed the numerous projects for which one of the great philanthropic foundations received appeals for money. He said he had it more and more borne in upon him that the highest possible philanthropy and program of social welfare and moral uplift is the scientific organization of business. I think it is. We are in a business world, and when business is badly organized everybody suffers. When business is efficiently organized everybody benefits.

We often see magazine articles entitled *What I Would Do with a Million Dollars.* Some of these discussions are illuminating and helpful. Others are bosh. But I wish I had the knowledge and genius to write intelligently upon the theme *What I Would Do with a Hundred Years.* Out of the little education and insight my first fifty years have given me, I feel I should like to devote the next one hundred years to some seven or eight great causes. I do not believe I could solve them; I might not do them any good, but I am sure working at them would do me a great deal of good and do no one any harm. I think they are causes to which an educated man can properly give all his courage, strength and intelligence. You would, no doubt, think of other causes that seem to you just as important, but these seem to me basic in significance. First:

I should try to get everybody a job.

I mean I should encourage all I could just what my friend mentioned yesterday as the most basic of all philanthropy, namely, the scientific organization of business. I would do this for two reasons, first, because I know from more than one experience that to be without a job is the most sickening terror a man ever has to meet. I have seen men fight, I have seen men under fire, I have seen many a man die, I have had them die in my arms, and I never saw one yet who was afraid. But I have never seen a man of any intelligence, however great his courage, who was not afraid if he was thrown out of work. Uncertain tenure of the job is the one chronic terror among the unskilled as well as the skilled. It is an underlying background of fear in the lives of probably ninety per cent. of all normal people.

The second reason why I should try to get everybody a job is, because wealth, even a little wealth above the bare necessities, does bring an incalculable amount of human happiness. I shall not enlarge upon this, but it is only in periods of economic development that the human spirit flowers to its utmost. It is only when men have wealth above their necessities that they build temples of religion, carve beautiful statues, write noble poetry, develop law and justice, paint pictures, become tender toward woman or do anything great and memorable beyond the bare-handed heroisms that nature forces upon them in the sheer struggle for existence. Yes, I think these are sufficient reasons why an educated man could appropriately link himself to the cause of trying to get everybody a job.

Second:

I should try to place every man in the job he loves to do best, because that is the job he could do best.

Here indeed is a task for the world's ablest statesmen, strongest business men, greatest religious leaders, wisest educators, warmest-hearted philanthropists. A recent survey indicates that of the people who have jobs seventy-five per cent. are unhappy in the jobs they have. It may be flippantly said that a great many people would be unhappy in any job. I don't believe that is true, because our psychologists have found that with any reasonable congeniality and success in the work, the unhappiness is usually not due to lack of adjustment to the job, but lack of adjustment to life itself.

Surely the happiest thing going on in industry today is the development of the Departments of Personnel—of human adjustment—in our great factories and commercial houses. It is the first effort in all history to adjust men to their work and to adjust the work to the men. It has come quietly and with little blare of trumpets, but I imagine the invention of mental tests and the various fairly adequate methods of estimating a man's abilities, his likes and dislikes, his industry, cooperativeness and other traits of temperament and character, when applied to education and industry, will probably bring more happiness to mankind in the future than the automobile, radio and airplane combined.

What a tragedy that there are only about one thousand psychologists in America and probably not more than two thousand in the whole world! These are the *only* men qualified to develop this great personnel service along truly scientific lines and keep it out of the tragically destructive hands of "character analysts," astrologers, handwriting character readers, and other types of witch doctors and numskulls. Would to heaven some philanthropist might read this book and devote a million *at once* to forward this great program of adjusting men and women to their jobs! I happen to know that the National Federation of Personnel Research, under the leadership of Dr. Walter V. Bingham, and his corps of brilliant associates, has a sound, thoroughly worked out set-up by which this great campaign of vocational counseling and adjustment could be enormously expanded within a very few months and carried into nearly every school, factory and home in the land. What vast returns a man would get for his million! The actual wealth he would add to the nation would be immense, the happiness he would contribute would be incalculable.

Third:

> *I would develop the science of forecasting economic conditions.*

After getting a man a job and adjusting him to life through it, I should try to see that he kept his job. I think one of the most effective means of doing this would be to supply both capital and labor with continuous sound prophecies of what is likely to happen. Of course, statistical science can only predict what is most likely to happen. Anybody can predict what may happen, but statistical science, in its present-day refinement, is able in many fields to pick out the trends and the series of events that have the largest probability in their favor. This science is only in its infancy, but it is full of rich promise of economic and social benefit.

Business men are just beginning to wake up to what economic analysis, especially the application of the higher and more refined statistical techniques, could do for them.

The more accurately business and economic conditions can be forecast, the more it will provide continuity of employment for the worker and do away with the disastrous cyclical business depressions and seasonal fluctuations that are the terror of both capital and labor. In an address before the National Metal Trades Association recently, President Leonor F. Loree, of the Delaware & Hudson Railroad, pointed out that the five "major hazards of life" are sickness, accident, unemployment, superannuation and death. The forecasting of economic conditions would give a solid background of prediction that would enable the true statesmen in business, of which Mr. Loree is one, to take more effective measures than would otherwise be possible even to the highest business genius, for safeguarding the worker and his family from all of these major hazards except death; and it would often defer even that; at least it would make its prospect much less harrowing. So, I think, this is a cause to which an educated man could not help lending his faith and energy.

Fourth:

> *I should try to promote more democracy in industry and more aristocracy in politics.*

There is one distinction between the worker who is given a chance to cast a vote on some policy in his particular industry and the voter in politics which is overlooked in politics but of vital importance to the success of any group enterprise. This distinction is that the voter in an industry, such, for example, as the garment workers or coal miners or railroad engineers, is nine times out of ten vastly better informed than the voter in politics. He knows his problems, they have to him a pervasive immediacy; he talks them over daily and hourly with his fellow workers, often with his immediate superiors. In addition he *knows his leaders;* he has often grown up with them; they frequently belong very much to his crowd; they usually have very much of his emotional and mental background; they understand his life and he understands theirs. Furthermore, the problems are more concrete; they are more amenable to practical instead of theoretical and emotional solutions, and both the worker and the employer realize their personal stakes in the enterprise. All the workers have many common interests and objectives, while in politics the voters have innumerable radically opposing interests and objectives, social, racial, sectional, economic and religious.

I have no notion of suggesting any *methods* for applying democracy to industry but merely to point out its contrast with politics. The whole aim of democracy in industry is to *benefit all parties;* in politics, it is usually to benefit one party at the expense of all others. In industry the purpose is to secure and maintain more amicable relations; as Mr. Loree says in the admirable address that I have referred to, "You can get more out of changing the relationship between the men and the company for the better than you can out of the application of new machinery and new processes." As a practical result of the institution of many democratic processes on his own railroad, not a single employee has lost his job during the past year except for misconduct, notwithstanding the great market collapse of October, 1929, and the marked decline in business that has followed.

The chief difference, however, is that *democracy in industry tends powerfully toward the development of a sound aristocracy in the management of industry,* *while in politics the tendencies of democracy are powerfully toward the selection of second-class men for leadership.* Intelligence and superiority have no weight whatsoever in politics. The genius and the moron, the producer and the loafer, the prince and the pauper have *one vote apiece!* The wit of man, I think, could hardly devise any more ingenious method for absolutely insuring, not democracy or aristocracy, but pure and unadulterated mediocrity.

If I had my one hundred years to expend in setting up an ideal Republic, such as the one of which Plato dreamed, it seems to me I would give everybody a vote, even the moron. Since civilization is founded mainly upon three urges in human nature, namely, hunger, the sex instinct and the desire to be important, I would give every one a vote in order to satisfy his urge to be an important personality.

But if a man had a little sense, I would give him two votes! If he had a little more sense, I would give him three votes. And if he used his sense for public service or made unique contributions of any kind to the general good, I would give him five or six votes. I often think in this connection of a dear old lady I knew in my boyhood in southern Indiana. On a little forty-acre tract of poor farm land that would scarcely raise anything except sassafras saplings and blackberry bushes, she reared eleven sons, six of whom became most effective preachers of the gospel. One of these six became a national organizer of Sunday-schools, and two of them became college presidents, one of the two, a man of national note as an educator. The other boys developed into successful business men. Now, I would give that woman something like forty votes! I should give due weight in my Ideal Republic to personal superiority of intelligence and character. In other words, I would make politics truly aristocratic, the loftiest profession open to human genius, and I would build industry more and more along the lines of democracy. Both systems, I feel sure, would thus work for the one and only salvation of the social enterprise, namely, trained, sympathetic, efficient, permanent leadership.

Fifth:

I would promote the spread of mental hygiene.

By that I mean I would bring all the ministries of the physician, psychologist and the psychiatrist to the solution of the daily problems in the lives of people. These ministries are our final hope for solving the problems of marriage, of child development and orientation, of parent and child relationship, of juvenile delinquency, of crime, of social and mental health. There should be a trained psychiatrist or psychologist in every community of one thousand citizens to whom people would go just as freely and openly with their mental and emotional problems as they do now to the physicians with their physical problems. These engineers of the mind and nerves would deal scientifically, understandingly, with the problems between husbands and wives, between parents and children, between married people and relatives-in-law (a recent research, which I have myself promoted, has disclosed that the interference of relatives is the largest single cause of divorce), the problems of brothers and sisters, the problems of lovers, the problems of financial distress—in short, the real, actual, concrete problems from which no human being can escape and which most human beings blunderingly muddle through and which science can now aid greatly to solve.

Sixth:

I would seek to discover and promote human genius.

When you promote genius, you promote everything else. You promote health, wealth, government, science, invention, art, religion, literature, social organization—everything men prize. The recent studies by educators and psychologists, particularly those by Dr. Leta S. Hollingworth, of Columbia, and Doctors Lewis M. Terman and Catherine Cox Miles, of Stanford, have made it almost a certainty that there must be two or three times as many children in our population as our haphazard methods are now discovering and promoting, who could be developed into those persons of intellectual power and sustained creative drives to which men have given the magic name of genius.

If any man of wealth could be inspired to devote a million, or any numbers of millions, to this undertaking, the actual financial return would, for once, be truly "beyond the dreams of avarice." The discovery of only one Edison, or Burbank, or Morgan, or Jennings, or Welch, or Funk, or Millikan, or Michaelson, or Thorndike, would pay ample returns on an investment big enough to build a hundred battle-ships. So far, there has been probably less than one hundred thousand dollars, certainly less than a million, devoted directly to this purpose in all the history of mankind, notwithstanding that without the few geniuses who have, by chance and the grace of God, discovered themselves, mankind would have no history worthy of the name. I hope some sincere man of wealth may reflect deeply upon this suggestion, for I can assure him personally that the machinery and the whole set-up for making his investment yield immediate returns *are now in existence.*

Seventh:

I would promote eugenics.

Eugenics is the last great appeal to the moral and religious passions of mankind. The improvement of the race in its organic health, intelligence and character is the next, and I think the last, superlative objective of ethics, education, religion, industry and politics. It is nothing short of man taking his evolution into his own hands and shaping his own organic destiny to larger, happier and more fruitful ends. It may fail, it may be too big for man to manage.

But if eugenics does fail, it will be a failure that has in it the glory of man's noblest passions, the beauty of his highest imaginings, the majesty of his noblest heroisms. It will be a game worth the candle, even though, in the end, the candle is blown out by the storms of political destruction, or flickers out in the long night of social dissolution and barbaric despair.

One might easily extend these "worthy causes" indefinitely, perhaps infinitely. They are examples of the great social, industrial and political objectives with which an educated man can ally himself without the charge of propaganda, personal advancement or the moral reform of his neighbors, being justly brought against him. Not one of them will be brought about or can be brought about by anything except education and educated men and women. Of course, educated men must differ on method and procedure, on means and instruments, but such problems must come within the daily and hourly touch and vision of every man who pretends to call himself educated. Education is for life, and such problems as these are the life of this age. They constitute its cultural anthropology, they are its agencies of living. And to be a part of them, to help in solving them, to try to understand them is the very essence and dynamic of what cultivated men have in mind when, speaking among themselves, striking hands with one another, they use the words education and culture.

CHAPTER XVIII

He Builds an Ambition Picture to Fit His Abilities

Next to the man who has no job at all, the most pathetic things in the world are, first, the man who has a job that is too big for him, and second, the man who has a job that is too little for him. For the moment we are concerned not with the man who has no job, but the man who is a misfit in the job he has. This is because in many cases something can be done about it.

If you will ask the next one hundred people you meet what they would do if they had plenty of money and were free to do as they pleased, without a single exception they will answer with the one word, ''Travel.'' Dr. David Mitchell, whom I have copiously quoted in a previous chapter, has found this to be true by examining many hundreds of people. After having stated their first choice there is no common occupation or avocation or pleasure which they all choose. Some would like to practise law, others plumbing, some salesmanship, others teaching, and so on. But to ''travel and see the world'' seems to be the one great desire of all mankind. This is probably because, if one travels with his expenses paid, one is totally free from responsibility and something new is always turning up. It is almost like having wings and in this day of airplanes the wings have become an actuality. This may explain why men have always pictured their angels and departed spirits as having wings. In Paradise one must travel without expense. And to travel without care for cost seems to be a universal passion.

So, if you get at a man's day-dreams you will find, whether he is conscious of it or not, that his biggest dream is to travel, even if, as the late George Fitch, the wit of Peoria, said, his only objective is ''to use great speed to get from hither to hence.'' Getting from hither to hence and then instantly taking the first boat, train or airplane to get to some other ''hence,'' and so on and on, apparently with the hope, as Fitch continued, of landing in ''the great saccharine subsequently,'' this seems to be the particular passion of the age.

But after this desire is satisfied, either in reality or in imagination, the curious and distressing thing is to find how few people, especially young men and women, have any clear picture of what they want to be or do as a life occupation ten or twenty or even two or three years from now. This is what I call your ''ambition picture.'' It is different from, although interwoven with, your personality picture or the picture of what David Starr Jordan happily terms your ''after self.'' It is the picture you have in your mind of yourself as actually working at some occupation in the years to come. I sometimes wonder how effective our school system really is in relating its pupils to practical life when I find that it is the rare young man who has any clear ambition picture, who has ever built up associations in his mind of how he would look or act or feel or think or enjoy the work if he were a doctor or electrician or paper-hanger or preacher during his working years.

Doctor Mitchell relates one story of a young man into whose mind he delved on a number of occasions with a view of bringing out if possible his mental picture of himself as doing some kind of work a few years ahead. There seemed to be nothing he really wanted to do although he was unhappy out of a job. Finally Doctor Mitchell in despair said to him, ''Is there anything on earth you would like to do or be?" "Why, yes," the young man drawled with the most unconscious sincerity, "I'd like to be a retired business man."

Even if a young person states that he would like to be ten years from now in some occupation such as law, medicine, engineering or writing Doctor Mitchell has found, along with all other clinical psychologists, that very frequently he has not given the slightest thought as to whether he would like the *work* that has to be done in the occupation. An enormous number of young men get the idea they would like to be doctors or lawyers because these men go about town well dressed and have their names on the doors of their offices and sometimes, perhaps, in the newspapers; and the young man thinks it would be fine and grand to be such a person. As a matter of fact he is merely picturing *himself as an important person* without the slightest thought of the kind of life that person really leads, of the work he has to do or the responsibilities he has to carry. He leaves out of account the long years of toil, privation and drudgery required to reach the coveted position of affluence and influence.

I sat recently in the luxurious home of one of America's leading physicians. His servants were coming and going in livery and he was preparing for his annual vacation in Switzerland. Surrounded with works of art and virtu, noticing the patients who came to him from far and wide, I said to him, "There are certainly splendid rewards in being a physician." "Maybe so," he said, "but I fear if I had known the hardships, the sacrifices of social life, the near starvation and anxieties of the long road when I began, I would never have had the courage to undertake it. It has paid, of course, but you pay a high price for success in any worth-while human undertaking."

When I speak, therefore, of young men and women building an ambition picture as the most practical outcome of their education, I have in mind that they should do three things. First, they should make the most intensive and extensive unbiased study of their general abilities they possibly can; second, they should line up as definitely as they possibly can their likes and dislikes of all the occupations which they feel there is any likelihood of their undertaking; third, they should make as careful a study as possible of the occupations to which they feel attracted.

For a number of the following suggestions I am indebted to two books which I believe every young man and woman who feels the need of vocational advice should read. I would give a great deal to have had these two books when I was a boy in high school and college, but they could not have been written then because the science of life planning had not developed as it has to-day. These two books are, *How to Find the Right Vocation,** by Henry Dexter Kitson, of Columbia University, formerly President of the National Vocational Guidance Association, and *How to Choose and Get a Better Job,** by Edward Jones Kilduff, of New York University, School of Commerce, Accounts and Finance. Two other excellent books, especially for educators and vocational counselors, are, *Vocational Psychology and Character Analysis*† and *Judging Human Character*† both by H. L. Hollingworth, psychologist of Columbia University.

As Doctor Kitson points out, there are three thousand occupations in the United States and twenty-three million people changing jobs in those occupations yearly. A recent Y. M. C. A. survey shows at least forty per cent. of all young men are dissatisfied with their jobs.

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*Harper & Bros., New York.
†Appleton.

The usual question in the mind of a young man or woman is, "Which *one* of these three thousand occupations am I cut out for?" You should get this notion out of your head at once because every person is cut out for and can work successfully in a considerable number of these occupations. It has been due largely to palmists, phrenologists, bumpologists, character analysts, graphologists and other hot-air merchants that we find so many young and middle-aged men and women who have the idea that they were cut out for some special work in life and if they do not find that particular work they have "missed their calling" and are a square peg in a round hole. In an enormous number of cases the peg can be made to fit the hole. As Doctor Kitson suggests, in building your ambition picture you should put the question in this form, "What occupation can I most readily and easily *fit myself for?"*

Every one should by all means have a test made of his general intelligence. It is far better if this can be done by some trained vocational counselor or psychologist. There are now about one hundred and fifty psychologists throughout the United States who are especially well qualified in vocational psychology. Dr. Walter V. Bingham, Director of the American Psychological Corporation, 29 West Thirty-ninth Street, New York City, will send the names and addresses of these scientists to any one wishing to consult them. Doctor Bingham was kind enough to take a great deal of trouble to prepare this list at my request in the interest of the young men and women of the country seeking advice as to their life careers. The fee charged by these psychologists for several hours of interviewing and testing an individual ranges from about twenty-five to a hundred dollars. This fee is trivial compared to its life-long benefits. Parents readily spend hundreds and thousands of dollars to send a boy or girl through school and yet think it an extravagant expense to pay one hundred dollars to find out what to do with the schooling.

Many young men and women, of course, do not greatly need this advice. They have such definite liking for a particular line of work, stenography or accounting or mechanics or whatever it may be, and such obvious abilities for it that a psychologist would not be of great assistance to them. But the majority of boys and girls are pretty much at sea in this important matter.

A general intelligence test is of service because it indicates not what occupation you should go into but whether you have the requisite abilities for success in the occupation you think you would like best. For example, if the intelligence of people on the average is rated at 100 and the intelligence of engineers and doctors is found to be 120, it would be obvious folly to undertake these professions if you found your rating was 95. A person with a rating of 95 can learn almost anything, but to do original work and solve original problems as they come up in these higher professions would be extremely difficult for a person with a rating of 90 or 95. Moreover, such a person would be extremely unhappy in such a job. Of course the reverse is likewise true; a person with a high rating should not choose a job that requires only moderate or low intelligence. Some of the most unhappy people I know of are miserable because their jobs require so little of their intelligence it leaves their minds idle to worry over their own inner troubles and emotions.

As a second step, Doctor Kitson urges that you list twenty or thirty occupations you may know something about and imagine if you had a million dollars which one of these you would choose as your life-work. You should preserve these lists and every few months check them over again since your likes and dislikes, especially when you are young, usually change a great deal as time goes on.

The third step is to analyze as best you can the occupations that seem attractive to you. How else can you possibly decide intelligently? No psychologist can help you in this. You must read the newspapers and magazines and get books from the library that tell about them and talk to every person you can who knows about them. You want to know what sort of work they require, how much preparation, what wages or salary they pay, how rapid are promotions, what sort of people you would have to work with and the answer to forty other questions. Unless a young man is willing to go through this ordeal it will be only a lucky chance if he strikes the right occupation and, even if he does, going at his life-work in this haphazard way means he will never become a really educated man. He is not filling a real ambition picture; he does not see himself as a big successful worker in any field of human endeavor.

I have treated the problem of filling out your occupation or ambition picture as being somewhat separate from the other pictures that we plan of our personalities and our future selves. It is so interwoven with these other pictures that they might all easily be treated as one, but I think it defines the problems a little better to see them in separate categories. A man's work, as I have said, is not often all of his life. According to Dr. Richard Cabot men live chiefly for three things, play, service and love. But a man's occupation in life colors these things by which and for which he lives. And if he finds himself in his mature years in the wrong occupation—something that in our maladjusted industry can not always be helped—it discolors and distorts the spiritual values for which in the main he is living.

It is for this reason that the building of a sound healthy ambition picture congenial to one's temperament and commensurate with one's abilities is of such profound importance in its bearing upon the sum total of one's education. Certainly a man's work ought to be a process of continuous education. This is, of course, in our machine age a counsel of perfection. I do not for example see how it is possible for a man who is one-forty-fifth of a shoemaker to get a profound education out of his work. I was in a shoe factory the other day where it took forty-five men to make a shoe. One man put the nails in the heels, another in the toe, another stitched the top while another stitched the bottom. I saw others who were spending their whole lives punching holes foɪ shoe-laces.

Not a single man saw the completed shoe except the man who boxed them for shipping. Not one of the workers saw the man who was going to wear the shoes or felt the slightest desire to please him. In the old days when one shoemaker made an entire shoe and frequently tried it on the foot of the man who was going to wear it and had many a pleasant talk with him about its style and fit and durability, held mutual sympathy conferences with him on the subject of corns, bunions and gout,—in those days, making shoes was no small education and brought with it many significant human relationships. Man evolved as a craftsman, shaping his spear and boat for both service and beauty; he owned what he made and was a partner with his neighbors in many mutual enterprises of manufacture and adventure. He thus developed a loyalty to his occupation and to his group. But a man can not be loyal to a smoke-stack. He can not well put art or spirituality into a shoe-peg.

Science has brought to modern life the great problem of having taken this ten-million-year-old craftsman, adventurer and neighbor and set him down to a one-hundred-and-fifty-year-old machine. And the greatest problem before industry, education and politics is how to put some fun and adventure back into those types of work that the machine has so highly simplified; how to develop new loyalties, give men new outlets for these big wholesome instincts and at the same time bring into being new forms of democratic cooperation and common neighborly thought and desire. I do not believe for a moment that we have really lost more than we have gained by the triumphs of science and the invention of machines. Yet it is the one supreme challenge to education, politics and industry to take this big, daring, roving hunter, fisherman and warrior, which man has been for millions of years, and suddenly make him into one-forty-fifth of a shoemaker, and at the same time ask him to build ambition pictures that will fulfill his passions and occupy his abilities and, likewise, in the leisure hours and days that the machine has created for him, give him compensations and instinctive satisfactions for the imperious inner needs of his nature.

However, we must remember that vast numbers of people of moderate intelligence, when they can chat happily with fellow workmen and be made to feel they have some degree of partnership in the general enterprise either in the form of obviously fair wages or some scheme of profit sharing, are far more contented than if they were compelled to live on the plains and in the woods by an hourly strain upon their wits and with their lives in their hands.

The educative use of the leisure which the machines have given to countless millions of people is a problem which must be met by large organized programs. The individual himself can not solve it but education and social integration can and will. It is not the purpose of this book to go into the question of the machine and its relationship to the uses of leisure which it has brought about. There are numerous volumes that treat these new features of man's existence with profound penetration and suggestiveness. What I mean to point out here is that young men and women can themselves largely solve this problem by planning an occupational career that is educational.

It is a distinct mark of un-education, of intellectual laziness, of a complete failure to see life in any harmonious perspective, for men and women in their mature and middle years to find themselves in a wholly uncongenial and unfitting occupation. They may lay it to ill luck, family necessities and the like. Sometimes these excuses are valid. Very often one's health has been a great drawback. But it is certainly the duty, the deepest obligation of young men and women to strive deliberately to develop an occupational ambition, passion and interest that will in and of itself be a continually satisfying mental and spiritual experience. This ambition picture should enlarge, its perspective should become clearer, its meanings richer as the years go forward.

Young and middle-aged men who have a clear understanding of their own abilities, an appreciation of their own limitations, a definite knowledge of what they can and what they can not do, of what they like and do not like to do, who have striven to fulfill these abilities and inner interests in a congenial occupation, and older men and women who have in their life-work deliberately searched for and to some extent discovered these satisfactions, these are the people who by this exercise of will and foresight exhibit the most distinct marks of a genuine education.

CHAPTER XIX

He Always Tries to Feel the Emotion He Ought to Feel

It is amazing how a trivial incident reveals to a thoughtful man how little education he gets out of even great experiences if he does not do something about them. The good impulse that we do not obey and allow to evaporate, the fine resolution that is not carried out, as Professor James insisted, is worse than an opportunity lost. It actually weakens us for the next opportunity. It gives us practise in our own errors. We are really weaker, less resolute beings than we were before. The town drunkard who "gets religion" at every revival, becomes a saint for a few weeks and then backslides, is a typical picture of the lives we all lead to a greater or less degree.

As an instance, a great many years ago I was sitting with Mrs. Wiggam under a tent erected on the campus of the University of Chicago, listening to a Sunday morning address to the summer students by President Henry Churchill King, of Oberlin. The address stirred me deeply although I do not now have the slightest idea what it was about. There was, however, just one sentence in it that I recall with perfect distinctness. And the only reason I remember it is that I *acted* upon it; I thought about it; I did something about it; I took the first opportunity that came up to try it out; in short, I incorporated it into my life. It has given me a great deal of help toward getting an education. If I record it here it may perchance give the same help to some one else. Doctor King's remark was this:

"You should always try to feel the emotion that you ought to feel."

"But," you say at once, "how am I going to manufacture the right emotion if I do not just naturally feel it? If I do not get excited over a picture or a poem; if I am jealous instead of happy over the achievement of some friend; if I do not feel religious in church; if I do not like my job, how am I going to get that way?"

I admit you can not yank yourself up by the nape of your neck and feel an immediate rush of ennobling emotion. You can not say, "I *will* feel right and moral and sympathetic and courageous and happy and energetic," and thus instantly lift yourself into the seventh heaven by your moral bootstraps. But I do maintain that you can *achieve* these sentiments and emotions if you *cultivate the knowledge* necessary to achieve them, if you learn to perceive the beauties and realities out of which all great emotion and happiness must spring. You can go a long way toward liking a disagreeable job if, instead of pitying yourself for having to work at it and thinking how much better off are those who seem to have better and softer jobs, *you devote the same amount of energy* to trying to discover what your job means to yourself and to others.

For example, I knew a man who hated his work as an expert accountant. He was constantly thinking how fine it would be to be a lawyer or doctor and go about righting other people's troubles. But he came to the conclusion that it was too late in his life to study for these professions and he began to think that perhaps the work of an accountant was just as important to the conduct of society as that of the lawyer or doctor.

So he began to read up on the work of expert accountants, their importance to our commercial life, the wide influence they exert and the cultural values of accounting as compared with those obtained from other subjects. As a result his whole life and work took on a new tone and meaning. And for the benefit of any bookkeeper who might read these lines and who feels his work is "nothing but drudgery," I can not refrain from noting a remark, also repeated in another chapter, by Dean Carl Seashore, of Iowa University, one of our most cultivated Americans. The Dean said, "If I had my way I would give every boy and girl in the Republic a thorough course in accounting, because it is something every one should use all his life and I think it has more cultural value in this age than Latin or Greek." Perhaps some classicists would not agree with Dean Seashore, but he speaks with a great deal of knowledge of both the science and art of education.

The difficulty is we all have eyes that see not and ears that hear not. This is chiefly because we have not *trained* our eyes to see nor our ears to hear the real things that bring permanent joy and satisfaction.

As an illustration of this the story is told of an American multimillionaire, who, after roaming aimlessly through one of the great art galleries of Paris said to his wife, "Well, Amanda, I guess there is nothing much here for us to see." The attendant who possessed the knowledge necessary for achieving the right emotion toward the works of beauty all about him retorted, "These pictures are not on trial, sir, but you are."

The millionaire was right—although of course this may be a distorted picture of the American millionaire—when he said there was nothing for him to see. There was not. A man can not feel either exaltation or disgust in the presence of beauty or ugliness that he does not understand. The whole work of character education—indeed of all education—is to develop the understanding of fundamentals from which only right emotional attitudes can proceed. The truth of the old saying, that when you travel to a foreign country you see what you take to it, has its psychological basis in this fact. A man can appreciate only what he understands.

If, therefore, you do not feel rich and potent emotions in the presence of the great works of virtu and beauty that have been approved by the judgment of time you may be sure that they are not on trial but you are. And the judgment of time simply means the judgment of the men and women who possess the profoundest knowledge. We often hear of books that have been rejected by a score or more of publishers and yet afterward became famous. Of course popularity is not a proof of merit. If a book sells well it is sometimes an indication that it is a very poor book; otherwise it would not appeal to the uneducated masses. This has its exceptions of course, but I always suspect a best seller. I fear it can not be very profound or very accurate simply because these are the two things that repel instead of attract the great majority of people. However, we know that some works of high and permanent merit have been instantaneous triumphs. Consequently a writer whose works prove popular should not be utterly depressed.

It is true, nevertheless, that it requires greatness of spirit to appreciate greatness of spirit. It requires a trained imagination, which is usually achieved only by the arduous toil of acquiring knowledge, to attain the right emotions toward the great works of literature, art and science. If one, for example, does not feel deeply stirred in the presence of the great pictures, the great poems, the great characters in literature, one can be absolutely certain one is living a vastly lower and more restricted life than one could and should be living. These great works of the mind and spirit of man are always there, pleading with him by every appeal of art and even every ruse of artistry that he enter into their joys and exaltations. Like the serpent in the wilderness they lift themselves before all who will look with seeing eyes to inspirit them with their ministry of healing. Great works of art of all kinds always embody the impossible. They are the personification of men's ideals; and ideals are the dreams of men that can not be possessed. But, like a perfume wafted across tropic seas from some land hidden just beyond the horizon, they for ever "beckon us on to the blue beauty of life's Eden isles." And if you do not catch this perfume, if creations of the spirit do not fill your own life with a new fragrance, if they do not come to you as great new agencies of living, all you can do is to study them, to inquire and learn about them and try to see why it is that men have turned to them for consolation and courage, why they have made them their holy altars and kept sacred fires burning upon them throughout the generations.

But great works of art are for our rare moments, although it is perhaps our rare moments that help us most in cultivating the right attitudes toward the common things we must deal with throughout the day. And cultivating the right emotion toward common things as well as great things is the work of a lifetime. There is surely no emotion we need more than courage. If a man tells you he has never known fear he acknowledges he has no imagination. And perhaps I may say with propriety that the best way I have found to be courageous in the face of danger or difficulty is to do all I can not to give fear time to come up. If I have a fight in committee meeting, or a disagreeable task to perform, such as writing a difficult letter, or dealing with a cantankerous person, I do my best to plunge in before I have time to imagine the consequences. Control of the imagination is the surest cure of fear and the surest source of courage. In a situation of personal danger, I find that if I hesitate even the bat of an eye, I am likely to get scared and run. But if I act instantly, if I can control my thoughts so as to drive my motor centers to immediate action, I literally haven't time to get frightened. If you can keep your attention fixed on courage instead of fear you can literally walk through hell and be unafraid.

If you will only try to imagine the right attitude you will be amazed how greatly it helps to create the right emotion toward drudging work and soul-racking toil—things that very few of us can entirely escape. A number of experiments have been tried on college students who were compelled to work at tasks they intensely disliked. After working up an artificial enthusiasm by saying to themselves as earnestly as possible, "My, but this is lots of fun!" "Gee, but I do like this work!" or, "I know this work is going to be a great benefit to me and to others," they have shown that these mental exercises resulted in work almost as good as the same students performed when they were really enthusiastic.

All of this is closely related to the recent developments in physiology and the newer knowledge of the interaction between the body and the emotions. As Professor Woodworth points out in his excellent little book *Dynamic Psychology* our very plans for using energy develop secretions for producing it. Working up an artificial enthusiasm tends to throw these secretions into the blood stream, and so stimulates the heart to greater activity and draws the blood from the portions of the body where it is not needed. It excites the liver to pour out into the blood stores of sugar which is the best fuel for bodily action, and starts other processes going that prepare us to meet the situation vigorously and easily. The blood is in some obscure way preserved from fatigue, and in a wonderful manner these secretions put the blood itself into such a condition that it will clot rapidly should our action carry us into physical contest where we receive a wound. It seems obvious from all this that the effort to feel the right emotion is eminently worth while and that even if we do not immediately feel it, but only pretend *(to ourselves)* that we do, the way is often paved for the right emotion to develop.

Both the psychology and physiology of the emotions are still practically unworked fields of science, but there can be no doubt that whether we are happy or unhappy in any situation or experience depends upon our attitude toward it, upon the way we feel about it. And our attitudes, provided human beings have any freedom at all, are subject to very great control. I knew a city woman whose husband took her to a small town to live. "Oh, how I hate this hole and these dull people," she said to me when she first arrived. "I simply can't stand it; I will die here." But she had the good sense to try to feel the emotion that she ought to feel. She knew she had to live there, then why not make the best of it? Precisely this same situation in a greater or less degree comes to all of us nearly every hour of every day. And the true greatness of life is almost wholly dependent upon our habit of getting the right point of view, of seeing the inwardness of the situation and creating out of untoward circumstance the emotion of eagerness, richness and significance. And so this woman met her hard situation; she did her best to enter into the lives of the people and find out why they liked to live there and how they could find a zest for living, a sense of victories won and, in their little church on Sundays, sing a pæan of duties fulfilled and of moral struggles met with the only true success—the success of simple courage. Two years afterward this woman said to me, ''I love this place and its people; I hope I shall never have to leave.''

The way you cultivate your feelings toward the situation you are in is the true secret of all happiness. It may create a smile in a mechanistic laboratory and yet for many people the following may be a procedure of great practical moment. I knew a man who cherished a deep hatred toward one of his neighbors. He concluded this was an unhappy way to live; so he prayed God daily to cause him to love his neighbor instead of to hate him. He was himself surprised at how quickly and effectively God came to his aid and changed his attitude. The psychologist may have his own theory to explain this ''answer to prayer,'' and yet sometimes in moments of national anger against a foreign country, a similar procedure might be practised upon a nation-wide scale with equally satisfactory results.

Those of you who have read that unforgetable essay of William James, *On a Certain Blindness in Human Beings,* will recall the splendid passage that follows his description of his own blindness in failing to see the moral and emotional meanings and values in what had seemed to him the unmitigated squalor of a mountain squatter's cabin. This essay is one of the best things in all literature to read by the firelight when out in camp. I read it aloud during a number of evenings many years ago when on a camping trip up the Kentucky River with ''Bob'' and George Taylor and ''Bill'' Shannon,—all now educators of high rank,—and we discussed its infinite implications until, wrapped in our blankets, one by one we fell asleep. The passage runs:

> Wherever a process of life communicates an eagerness to him who lives it, there the life becomes genuinely significant. Sometimes the eagerness is more knit up with motor activities, sometimes with the perceptions, sometimes with the imagination, sometimes with reflective thought. But, wherever it is found, there is the zest, the tingle, the excitement of reality; and there *is* "importance" in the only real and positive sense in which importance ever anywhere can be.*

And you will remember how James goes on to quote what he says is "the best thing I know in all Stevenson"—(and we might recall here the old adage that to quote greatly is next to writing greatly)—the passage from Stevenson's *Lantern Bearers:*

> To miss the joy is to miss all. In the joy of the actors lies the sense of any action. That is the explanation, that the excuse. To one who has not the secret of the lanterns the scene upon the links is meaningless. And hence the haunting and truly spectral unreality of realistic books. . . . In each we miss the personal poetry, the enchanted atmosphere, that rainbow work of fancy that clothes what is naked and seems to ennoble what is base; in each, life falls dead like dough, instead of soaring away like a balloon into the colors of the sunset; each is true, inconceivable; for no man lives in the external truth amongst salts and acids, but in the warm, phantasmagoric chamber of his brain, with the painted windows and the storied wall.†

So it is with your life and mine; "To miss the joy *is* to miss all." There are not many of us who can live amid those outward circumstances of wealth, leisure

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*From *Talks to Teachers on Psychology and to Students on Some of Life's Ideals,* by William James, by permission of the publishers, Henry Holt and Company.

†From *The Lantern Bearers,* by Robert Louis Stevenson, by permission of the publishers, Charles Scribner's Sons.

and irresponsibility where it would appear happiness should always come easy and where life should always be a summer afternoon. Whether these *are* the conditions that make happiness inevitable can be gravely doubted since we see many people amid these "happy circumstances" who are not happy. The suicide rate is said to be even higher among the wealthy than among the poor. There is something about the fight against poverty that, with the brave at least, brings its own sense of victory, its own meanings and reasons for carrying on to the next hour and the next day with its possibilities of adventure. The adventure may never come but there is always the possibility that it may come. If it is not here yet it may be lurking just around the corner. The day when this anticipation of adventure dies is the day when the poet within us perishes. For as Stevenson goes on to say in his *Lantern Bearers:*

> It is said that a poet has died young in the breast of the most stolid. It may be contended rather that a (somewhat minor) bard in almost every case survives, and is the spice of life to its possessor. . . . His life from without may seem but a rude mound of mud: there will be some golden chamber at the heart of it in which he dwells delighted. . . .
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> There is one fable that touches very near the quick of life,—the fable of the monk who passed into the woods, heard a bird break into song, harkened for a trill or two, and found himself at his return a stranger at his convent gates; for he had been absent fifty years, and of all his comrades there survived but one to recognize him. It is not only in the woods that this enchanter carols, though perhaps he is native there. He sings in the most doleful places. The miser hears him and chuckles, and his days are moments. With no more apparatus than an evil smelling lantern, I have evoked him on the naked links. All life that is not

merely mechanical is spun out of two strands,—seeking for that bird and hearing him. And it is just this that makes life so hard to value, and the delight of each so incommunicable. And it is just a knowledge of this, and a remembrance of those fortunate hours in which the bird *has* sung to *us,* that fills us with such wonder when we turn to the pages of the realist. There, to be sure, we find a picture of life insofar as it consists of mud and of old iron, cheap desires and cheap fears, that which we are ashamed to remember and that which we are careless whether we forget; but of the note of that time-devouring nightingale we hear no news. . . .

For, to repeat, the ground of a man's joy is often hard to hit. . . . To look at the man is but to court deception. We shall see the trunk from which he draws his nourishment; but he himself is above and abroad in the green dome of foliage hummed through by winds and nested in by nightingales.

So we see from every angle of approach, the angle of the psychologist, the poet, the philosopher, the priest, the man in the street that the *emotion toward every situation in life is the thing that counts,* the thing that redeems life to pageantry and mystery and miracle or that condemns it to mud and iron and ashes. We know that men *can* achieve right emotions because we know they *have* found significance, ardor, tranquillity, excitement, moments redolent with singing memories, glowing with inner victories, teeming with exuberant fancies always and everywhere. Men have found these in all ages in every conceivable situation that life and circumstance have ever visited or can possibly visit upon them. We read of their attaining "hours of ineffable glory" amid the filth, damp and hunger of prison; we read of their marching to death on the battle-field, singing with the gaiety of the groom coming to his bride; we read of their ponderous misery and despair on the very pinnacles of worldly power and fortune; and then we know happiness and significance are matters not of circumstance but of education, things that can be found in the heat and burden of the day as well as in the restful, joyous shade of a rock in a desert land. The grounds for a man's joy *are* indeed hard to hit, but the pathway to the hidden retreat of what Stevenson calls the "time-devouring nightingale," whose song, wherever it is heard, always gives life adventure, edge and meaning, is the pathway of understanding of life's real values through education.

CHAPTER XX

HE KEEPS BUSY AT HIS HIGHEST NATURAL LEVEL IN ORDER TO BE HAPPY, USEFUL AND GOOD

IF ANY parents who are contemplating the college problem for their boy or girl should chance to read this book; if any young men or women who are contemplating further liberal, professional or trade training beyond the high schools should read it; if any educator should honor its pages with ever so brief a period of contemplation, I believe they will all be benefited by the considerations advanced in this chapter. I make bold to say this because I have had the good fortune to collaborate in its preparation with one of America's safest, sanest and wisest educators, Dean Carl Emil Seashore. The impressions here advanced of the present status of a great deal of American so-called "higher" education are largely the result of several years of friendly acquaintance with Dean Seashore who is head of the Department of Psychology and Philosophy, and dean of the graduate school of the University of Iowa and the oldest dean in years of service, with one exception, in any American university.

As a further preparation, I recently spent several days with Dean Seashore, devoted to an intensive discussion concerning his five years' study of American schools, colleges and universities,—a study that he has been carrying on as the field representative of the division of educational relations of the National Research Council. During these five years, the dean has visited more than one hundred and fifty American colleges and universities and has held prolonged conferences with the faculties, going minutely into problems and methods of educational administration and practise. It is the most extended and important survey of American higher education that has ever been made, and if its program which really contemplates making over the American college to fit the boy and girl, to fit the new times and the new democracy—*the democracy of individual differences of ability and temperament with proportionate duties and responsibilities, instead of the democracy of human equality*—if this program is put into effect, there will surely be a great many more men and women in the coming decades than ever before who will carry the marks of educated persons, and be the bearers and creators of a richer and more fruitful American culture.

In fact there are nearly three-quarters of a million young men and women in the colleges and universities of America, and the following, according to Dean Seashore's research, is about what is happening to them:

First: if you should see an ox-cart, a covered wagon, a day-coach, a Pullman express and an airplane coupled together behind one engine, you would have a fairly just picture of the average American college. The engine is the college professor pulling, tugging and puffing away, trying to pull all this conglomerate assortment of vehicles along at the same speed. And there are three distinct tragedies which result: First, the professor is succeeding; second, he is proud of it; and, third, instead of traveling at the airplane rate, as the professor fondly imagines, the whole educational train is going at little better than ox-cart speed.

To apply this picture, in many colleges from top to bottom, and to some extent in all colleges, the fast, slow and the average students, the motor-minded, the abstract-minded, the artistic, philosophical and mechanical-minded students are all given very much the same educational dose.

This type of professor proceeds on the theory that the young man and young woman must be made to fit the college, whereas the new educational science says that the college must be made to fit the individual. The students, by the old theory, are in the main treated as though they were all born equal, notwithstanding that all men are born unequal. It is the business of education to draw out these inequalities and make them more unequal. As one philosopher has said, there is one point in which all men are exactly alike, and that is they are all different. Education should develop these differences, and make them into larger and more effective differences. Yet the average college professor has not the slightest idea of the magnitude and fixity of these individual differences and, as a consequence, does not know what his own job really is.

Second: the college is not nearly big enough. It is built for aristocracy instead of democracy—especially the new democracy that takes account of human differences in intelligence and character and gives weight to personal uniqueness and superiority. Only a fraction of one per cent. of the American people now get into any institution that could, by the utmost generosity, be graded as a college; only a fraction of those who ever do get in ever get out with a college diploma; and many who get out with a diploma are far from being educated or even notably improved. The colleges could and should serve at least three to five times that proportion of the American people and serve them vastly better than they are now doing.

Third: a large number of young men and women are now in college who ought not to be there. Some have ability and lack interest; others have interest and lack ability; some lack both. Many of them could not possibly achieve graduation, and even if, by some miracle, a college course could be forced into their heads, it would not pay either them or the country nearly as big dividends as to have them during these years in business or productive industry. On the other hand there are large numbers of young men and women not in college who ought to be there. We have no such thing as a national system of selecting and encouraging the young people of the country who could and should go to college, or be given advanced liberal or professional or trade training, and no just and uniform system of keeping those out who ought not to be there.

Fourth: the college is built on what scientists call the ''all-or-none principle.'' It says to your son or daughter, ''Four years or nothing. Take our whole educational dose, complete our course, whether it fits you or not, or else go home in disgrace.'' Partly as a result of this, in many colleges, one half of all the boys and girls who start do go home in disgrace. Not much over half the freshmen ever get through to graduation.

Fifth: there is a big task which lies ahead in American higher education. It is right upon us, and the college of to-morrow must meet and solve it. That task is educating each individual according to his own endowments and needs, and at the same time *keeping up mass production.* We must face the fact that the colleges are going to be from two to five times as big as they are now; yet they must at the same time devise systems of instruction and college and university plants that shall save, refine and make effective each individual's personal fineness and peculiarity, and that shall make each student happy, successful and good at his own personal level of capacity and desire.

In the future every college that fails to do this will be what many colleges are now, mere factories for grinding out a standardized human product that is all too frequently a misfit in modern life.

In fact, the colleges are to-day turning out so many misfits, they are struggling vainly to give an academic education to so many students who have no business to be there and putting so many others through courses that radically misfit their abilities and temperaments that, whenever I see the horde of incoming freshmen, and think of how many of them do not know why they are there and will likely never find out, how many more are going to be wrongly placed and untrained, though all possess a blind faith that somehow the college will fill their heads with the knowledge that leads to power—whenever I see this ill-assorted conglomeration of hopeful youth, they call to my mind the young lady who said to her physician, "How soon will I know anything, Doctor, after I come out of the anesthetic?" "Well," replied the doctor, "that's expecting a good deal from an anesthetic." I leave the college professor to make the application.

These are some of the impressions that have grown upon me from my discussions with Dean Seashore concerning his survey. My own years of popular lecturing to student bodies over the country and wide contact with college instructors have deepened the conviction that Dean Seashore's research has revealed with startling clarity, and yet with balance and tolerance, much of the true status of our collegiate and university education.

Every parent, professor, philanthropist and taxpayer, as well as every boy and girl who is contemplating the great adventure of going to college, will find the report of this survey, now published by the University of Iowa under the title, *Learning and Living in College,* a mine of information and inspiration. Dean Seashore has been a research and educational leader for nearly a generation. In his travels he found something good at this institution, and something good at that. To these findings he has added the experience and originality of his own genius. The result is a constructive program of lasting importance to American education.

This survey was first undertaken under the auspices of the National Research Council as ''The Gifted Student Project.'' Experience soon demonstrated that what was good for the gifted student was equally good for the good student—for *any student who is willing to work.* It has thus become a new national program for all young men and young women who are willing to work and study; for all professors and administrators who are willing to learn something new, or to embody the best practise that has been tried out anywhere. If carried out, it simply means that the American college is going to be made over to fit the student's individual needs, intelligence, interests and character, instead of, as heretofore, trying to make the student fit the college.

Even an educational report can have a soul, and the soul of this report is embodied in the motto Dean Seashore has developed, which might well be blazoned for inspiration above the doorway of every school and college: *Keep each student busy at his highest natural level of successful achievement in order that he may be happy, useful and good.*

Each of the key words of this motto stands for a broad principle: .*''Each''*—that means individual and not the mass; *''his''*—his own personal qualities and not those of somebody else; *''highest''*—in many colleges it is a disgrace for a student to do his best; *''natural*—his natural endowment and not some professor's notions of the endowment he ought to have; *''achievement''*—education must have definite achievement as its aim; *''happy,'' ''useful''* and *"good"*—education that does not make happy, useful and good citizens is not worth the paper it is printed on. As to what this far-reaching formula means, I prefer that Dean Seashore should tell you as he told it to me:

> This formula cuts at the root of one of the most pernicious theories of all educational systems. That theory is, that where the great Creator has failed to make all human beings equal, it is the business of the school to make them equal.
>
> In order to justify this improvement on the Creator's ideas, the schoolmen have found cover under five arguments, which many of them are still advancing with disastrous persistence. These arguments are, first, that the procedure works toward a democratic ideal; second, that it represents the rights of individuals; third, that it is good for the lowly individual; fourth, that it is justified by results, and fifth, that it is necessary for the operation of educational machinery. Each of these is an alibi, and represents a fundamental error and misconception of fact.
>
> In answer to the first argument, the true democratic ideal is not equal distribution to all, but *equal opportunities in proportion to capacity.* The second argument is just as fallacious; individuals do not have equal rights either in education or anywhere else in life. The genius and the moron do not have equal rights to wealth, social privileges or knowledge. They do have equal rights in proportion to their capacity to create and enjoy these things, and one should be just as insistent upon his rights as the other. The slow student should have his chance, but he should not be allowed to interfere with the quick student's having his chance; and, of course, the reverse is equally true.
>
> But the instructor with a glow of charitable, and what he thinks is democratic sentiment, advances the third argument. He says, "It is good for the poor student to hear the good student recite." The fact is,

it is not good; the humiliation of the poor student is often heart-rending. If the facts recited are at the level of the good student, they are totally beyond the comprehension of the poor student, although the latter often assumes an attitude of rapt attention as a defense device to conceal his feeling of inferiority. If the facts are at the level of the poor student, they are of no interest to the good student. The recitation moves too fast for one and too slow for the other; it is, thus, a gross injustice to all.

The fourth argument, that this procedure is justified by results, has a superficial appearance of truth. This is because the instructor does, in a measure, correct what he thinks was the error of the Creator in having failed to make all college students equal. He does succeed in making the gifted student and the slow student so nearly alike that when they come out of college it is difficult to tell the two apart. But it is *always* because he has dragged the good student down; the poor student can not be raised above his own natural level. As a result, the superior and inferior students come out of college very much alike.

As to the fifth argument, you will see as we proceed that it is not only unnecessary to the operation of educational machinery to treat all students alike, but it clogs the whole educational machine, and results in injustice to all concerned.

It is obvious from the foregoing remarks that this whole new educational program has two great objectives: first, individual attention to each student in order to develop his highest effectiveness, and second, keeping up, or rather constantly increasing, mass production. To achieve these aims Dean Seashore believes that some radical reforms are necessary.

In order to visualize these reforms, let us first ask ourselves *how Johnny and Mary ever arrive at college, and what happens to them the day they get there?* There has been talk in the home for years about their going to college. Neighbor Jones sent his children, and what is good for Jones's children must, of course, be good for Brown's. There are very often other considerations involved, but most students arrive at college through social custom, parental ambition, a prosperous country, accident and the grace of God. A few come from genuine love of learning.

Now let us follow Johnny and Mary through the first week of college. They plunge into a general pell-mell of registrations, entrance examinations and the like, resembling an educational riot, or the mob at a homecoming game. In proportion to the size of college, from two hundred to three thousand freshmen are herded (there is no other word) into classes, fraternities and dormitories. As to the courses, the instructors and the social groups with which a student becomes identified, these are largely matters of chance. Everything is at feverish heat.

From this exhausting process many go home at once marked as failures. As the year proceeds, from five to fifty per cent. of the remainder are sent home. During sophomore year another group is eliminated; scarcely more than half ever graduate. The students who fail go back home discouraged and disheartened. The whole thing is an orgy of waste in money, energy, hopes and ambitions.

"Now, for all this mêlée and pell-mell," said Dean Seashore to me, "our program provides simple, inexpensive and, we believe, complete remedies.

"The first remedy is one that we have already demonstrated here in Iowa will work successfully. Instead of letting vast numbers of students graduate from the high schools in June and probably waste most of the summer, and then go to college and find out they can not do the work and be forced to go home, we *propose to select the college students at their homes* by a national college qualifying examination. We have tried this in Iowa far enough to know it will work."

CHAPTER XXI

HE KEEPS BUSY AT HIS HIGHEST NATURAL LEVEL IN ORDER TO BE HAPPY, USEFUL AND GOOD

(Concluded)

THE program for meeting the national problem of determining who shall and who shall not, and who ought and who ought not go to college, as Dean Seashore outlined it to me, is to administer a general and uniform college qualifying examination on the same day throughout the United States, to every high-school senior and preparatory school graduate who may desire to test himself as to capacity and fitness to do college work. This is an enormous step in advance and it will not only prevent the majority of poor students ever leaving home, but will discover a great many young men and women who have not suspected that they had college ability. A small fee will be charged and since the student takes it for his own information, there is no incentive to cheat.

In this way boys and girls can find out whether they can do college work before they have even declared themselves to friends and neighbors. If they fail once they can study and try it again next year. Thus the boy and girl who now go off with high hopes of parents and teachers, and perhaps with their names and pictures in the local paper, and who are later forced to return home, will be saved an absurd, unnecessary and discouraging experience. The qualifying examination warns them in time.

This nation-wide drag-net, Dean Seashore thinks, will also be an eye-opener to the public on the notion that any one can go to college who wants to or whose parents think he should go. All will wake up to the fact that it *makes a difference.* It will enormously advertise what is the most important discovery of modern psychology, namely, the wide differences among people, and emphasize the equally important fact that these differences can not be readily or entirely overcome by some magic system of education.

Now, this college qualifying examination does not tell whether the boy that passes will do best as an engineer, linguist, scientist, mechanic, doctor or what. The next two big steps in the program are *freshman week* and the *placement examinations.*

The dean said that he first heard of freshman week at the University of Maine, and at once adopted it as part of his program. It applies readily to every college that has more than two hundred freshmen. During the first three days of the week, the older students are not allowed to return, except a few upperclassmen who are honored with an invitation to aid the faculty in meeting the new students. These three days are devoted by the faculty and honor students to adjusting the incoming students to their new life. The newcomers are shown all the facilities of the campus, libraries, laboratories, health service, opportunities for earning money, assemblies, churches, recreation and the like. Rooms and boarding places are found with some reference to congeniality. The whole aim is to develop a warm, human, sympathetic substitute for the old welcome that was given to our fathers by the college president, who received each boy and girl with a fatherly hand-shake and took a personal interest in getting the newcomers under way.

The last three days of freshman week are devoted to the third great step in making the college over to fit the student. This step is described by the phrase, *placement examinations.* They are given quietly to the new students off by themselves while the old students are coming back and getting located.

The placement examination consists of two distinct parts. The first half is the regular examination for testing the student's knowledge of each subject. The second half is something entirely new, and is one of the most significant outcomes of experimental psychology. It consists of a large series of tests designed to measure each student's native aptitude for each subject. It is a great advance over the tests of general intelligence.

To continue in Dean Seashore's words:

> Thus we test, not a boy's knowledge of English, but his fundamental ability to learn English; we test his mechanical ability, his foreign language ability, his chemistry ability, and so on. We now have thirteen subjects in which aptitude tests have been developed and we are constantly improving them and adding more.
>
> The outstanding discovery from these tests has been the astonishing amount by which individuals differ in their capacities, and how permanent these differences are. Your *natural capacity* to learn English or mathematics or mechanics probably does not change greatly throughout your life. For example, we find in the sense of the pitch of music, one person may have one hundred times as much capacity as another, and no amount of training *greatly* alters this difference between these two persons. Training enables each person to use better what he has but it does not greatly increase his original capacity. This we believe is essentially true of all our original capacities.
>
> Of course, we must distinguish carefully between what a student *can* do and what he *does* do. These aptitude tests measure with encouraging success what

he can do. As it is now, where the gifted student and the poor student are placed in the same class, the poor student grows disheartened and the gifted student becomes disinterested, and thus neither measures up to his real capacity.

The next step goes to the heart of this very situation—probably the most important problem in all education. We call this step ''sectioning on the basis of ability.'' It is already extensively in force in many grade and high schools. Our plan is to bring it over with the highest refinements of experimental psychology and apply it to the different kinds of college students. We propose to place the students, and we do place them here, in different classes according to their several abilities as indicated by our aptitude tests.

The grand result of this program is that by Saturday night of freshman week, Johnny and Mary, instead of the old exhaustion and bewilderment, are congenially located with reference to dormitories and fraternities; they have met all their instructors and many of the older students, and they have a fairly good idea of what living and learning in college really mean. But, in addition, thinks Dean Seashore, the placement examinations and the aptitude tests have supplied an entirely new educational instrument of the highest value to each student and to his instructors. This instrument consists in the fact that the instructors not only know each student's training, his home and school record, much about his general traits and industry, but they also know his aptitude in each of eight or ten subjects in which he has taken tests. It should be remarked at this point in passing, that Dr. Frank Shuttleworth, at the university, has devised a method for securing a student's home and school record, his character traits, home surroundings and the like, which is apparently going to prove of great value in predicting what a student will do with his aptitudes and abilities—how hard he is probably going to work; and it is believed that it also predicts with considerable success the general trends of character that he will manifest both in college and in later life.

This program has been tried enough to show that by the end of freshman week, every instructor has a fairly accurate, concrete picture of each student's natural level. On this basis, it has been found economical to divide the students into at least three levels—high, average and low. This furnishes a fair *starting-place* for everybody. Of course, the students are informed that it is only a starting-place and that these levels are not absolutely fixed, but that students will be permitted to pass up and down as their further achievements warrant.

Thus, on Monday morning following freshman week, instead of the old exhaustion, misfit and uncertainty, the dean pointed out, each instructor is in a position to carry out the motto of keeping each student busy at his highest natural level of successful achievement, because, for the first time, he knows fairly well what each student's natural level of successful achievement is. And the students are saying, as they greet one another on the campus: "I made the ox-cart," "I made the covered wagon," "I made the day coach," "I made the transcontinental express" or "I made the airplane division."

At this point I said to Dean Seashore, "Will not all this give the student who lands in the ox-cart a sense of inferiority and failure?" He replied:

> No. Our experience has been quite the contrary. It affects a poor student just about the way it affects a financially poor man when he finds out he has no money to invest. He simply does not have it and adjusts himself to the fact. Is there any reason why

he should not do this? It prevents his trying the impossible. It warns him in time. Moreover, the student is told that this is merely a preliminary sorting out, and he is welcome in the airplane division as soon as he demonstrates that he can do the work.

As a matter of fact, the most gratifying result of sectioning on the basis of ability is that the poor student is not humiliated by being compared with the brilliant student. We find that when students are with their equals all up and down the line, their inequalities, inferiorities and superiorities are forgotten. The good student is put on his mettle to compete with his equals and the poor student is working happily with his equals. *I absolutely condemn mixing students of high and low ability in the same class.* That is one strong reason why the better students have organized in most colleges to keep from doing their best. In many colleges a brilliant student positively has to conceal his brilliancy. If he does not he is against the gentlemen's union and is regarded as either "showing off," or as a "scab." But with this system, a student must play the game and do his best or else be looked upon as inferior by his own equals. And no healthy young man or woman can stand that. At least, it is a powerful incentive.

Moreover, the fellow who is often benefited the most is the bright loafer who lands unexpectedly in the ox-cart, and the jolt wakes him up. Let me give you an example: A boy came here from a military school where he had failed three years in the same course in English. He gave as his alibi that he couldn't learn English.

I said, "We'll just find out about that." So I gave him the aptitude test for English ability, and he made a rank of 84 on a scale of 100, on which the average was 50. But when we tested, not his ability to learn English, but what he had learned of English, he ranked 31 on a scale of 100. So we looked him squarely in the eye and said, "You have been loafing for three years;

now you have no alibi.'' The boy accepted the challenge and got an ''A'' on his first paper in English. His mother had encouraged him into believing he had no English ability, and this feeling was going over into other subjects where he was failing. We doubtless saved that boy from a lifelong sense of inferiority.

Here is another story that goes to the heart of some of the biggest problems in American education. I think it illustrates a new doctrine in our national life. We tested a boy and found him to rank in the highest ten per cent. for ability, but his grades showed that he had loafed all through high school. He soon made it evident that he expected to loaf through college. One day he passed an examination in psychology and the instructor gave him a ''C,'' but I marked him ''Failed.'' His instructor came to me all wrought up, and said it wasn't fair. I said it was fair to have marked him ''Failed,'' because he had *failed to do his best.* That was a new doctrine. Shall we hold all students to the same standard, or shall we judge the two-, three- and five-talent students each on his own level? Shall we judge a man by his inferiors or by his peers? Nowadays, if a five-talent student gets a passing grade we pass him, and a two-talent student the same. We thus judge all on about the two-talent level, a level at which the one-talent boy flunks and the five-talent boy loafs.

To prove this, I told this instructor that any bright boy could get a ''C'' in a generalized subject such as psychology or literature by merely guessing and drawing on his general information. He said, ''Oh, bosh!'' I replied, ''Let's try it.'' So, I got a bright boy in engineering and asked him if he had ever studied psychology. He replied he had not. I then gave him the same examination on which the other student in psychology got a ''C,'' and this engineering boy got just as good a ''C'' as the one whom I had marked, ''Failed.''

You see, as long as we do not divide the students on the basis of their ability, our present standards for passing are set below the level of mediocrity, so that in a subject where general information counts, a student above mediocrity can pass without ever having studied at all! Under this absurd procedure there is no use of his coming to college.

The last step and the cap-sheaf of Dean Seashore's great program is the organization of the junior college, a movement which is rapidly sweeping the country. The college now says to the boys and girls of this country: ''Take our whole four years or else you are a college failure.'' But the new college will say: ''Take the first two years and try yourself out. If by that time you find the last two years are not suited to your needs, tastes, plans, finances, health and abilities, we will graduate you with a college degree which will always be an honorable emblem of successful achievement, the degree of J. C. G.—Junior College Graduate.''

Some educators have said that a degree of J. C. G. would not be an honor emblem. But to this objection the dean replies: ''Look at the graduate of the vocational high school to-day. The parents come out and celebrate, they have a big commencement, and all are proud of the boy or girl. Now, if we simply carry that graduate on to two years of college, and give him another diploma, the parents will be prouder still.''

Here I interrupted Dean Seashore with this question, ''But, my dear Dean, can not the colleges do away with their first two years, and turn the junior college over to the present high school?''

By no means. *The high schools can not become colleges.* The life, program and methods of the high school and the true college are as different as night and day. In fact, the general high-school atmosphere throughout the United States to-day is of a comparatively low order as concerns first, their educational standards; second, their methods of study, and third, their social life. What I propose in these junior colleges is to take the ambitious students out of that atmosphere and set them a new pace, amid new and more stimulating associations.

As an example, here are three boys, ambitious for a college education. One has the making of a voucher clerk, one an automotive mechanic, and the third, a scientist. They first pass the college qualifying examinations at home, and demonstrate that they are college material. All three then start in the junior college. All are given the same course in English, and each will get a course in biology and also one in mathematics during the first year. The mechanic also gets one course in the technical aspects of machines and special work on automobile engines. The bookkeeper gets his special work in accounting—something I would give all college students, as I consider accounting far more cultural, as well as far more useful than the classics. The scientist gets extra work in the foundation courses of science. The second year goes on much the same, with more stress laid on the particular work which each student will follow in the future.

At the end of the two years, the bookkeeper and automotive mechanic go home with genuine college diplomas, a genuine liberal culture of recognized standing, instead of being marked as ''eliminants'' and ''failures.'' The beauty of it is that the two J. C. G. men have gone home with a liberal education. They will carry through life the benefits of two years of college atmosphere, of training under the finest pedagogy and with the highest expert organization of their courses of study.

You should also grasp clearly that instead of having the cafeteria system of allowing the student to select for himself out of a vast number of electives, as most college freshmen do now, the new junior college will provide a suitable number of elective *courses* or *curricula.* Out of these we will assist each freshman with our placement examinations and by every other means to select the curriculum which will best fit his abilities, temperament, economic and spiritual needs.

These different courses will have as many elements common to all as is advisable, and they will provide against letting the ignorant student decide, as is done now, whether he shall take physics or chemistry, or whether he shall take physics first and chemistry afterward, or *vice versa,* or whether he shall take German, bookkeeping or civics. The college, on the basis of experimental educational psychology, will decide those fundamental things for him. And while the J. C. G. men will go home as college graduates at the end of two years, the scientists and the academically and professionally minded boys will be encouraged to go on to higher fields of educational achievement and responsibility. We must never forget that ability to achieve and responsibility for achieving go together.

''I have given you,'' concluded Dean Seashore, ''an all too brief résumé of the program for the college of to-morrow. I wish I could tell you of what we term our 'project method' of study. By this method, one professor is able to handle a hundred students or more, yet he is able to give to each far more individual stimulus and instruction than is given by the present recitation system. I think that this also largely meets the common assumption that a boy gets so much more individual attention and personal contact in the small college. In my judgment, the university with thousands of students can be so organized as to give far more attention to each student's individual needs than was ever possible in the small college. I think also that the small college can be more effectively organized to meet the individual needs of each student than it is now. In many studies the recitation system will soon be obsolete. We have better and more individualized methods already in operation. But I trust I have shown you that the college of to-morrow must, and can, discover, orientate and serve the individual far more effectively than it is doing now, or ever has done.

"It is certain that we shall never have a true science of education until each individual in the entire mass is brought to his highest possible development. This may seem a counsel of perfection, but nevertheless it is the goal of psychology and experimental education. After all, the science of society, the science of living and the science of education have the same end in view; and I know of no better way to express this common objective than in the maxim of our good student project:

" 'Keep each individual busy at his highest natural level of successful achievement, in order that he may be happy, useful and good.' "

CHAPTER XXII

He Knows It Is Never Too Late to Learn

From the beginning of time people have believed the saying, "You can't teach an old dog new tricks." As far as dogs are concerned, this would not have mattered much, but unfortunately they have applied this notion of dog psychology to themselves. And modern investigation has shown that vast numbers of people fail to do many of the big and happy things they can do and should do just because of this deep-seated belief. But people have also for ages believed in fairies, and ghosts, and water witches, and equinoctial storms, and birthmarks, and the planting of potatoes in the dark of the moon, and the carrying of a buckeye in one's pocket to cure rheumatism.

Just as science has exploded all these and a thousand similar notions, so it has exploded the notion that you can't teach old dogs new tricks. All we know of the psychology of both dogs and people leads us to believe that while old dogs may not be so spry and alert, their sheer learning power is nearly as great as ever, and they can learn almost as well as young dogs and considerably better than puppies.

Even if this be not true of dogs, we know now from recent researches of the psychologists that it is certainly true of people—abundantly, inspiringly true. To those of us who are past forty, and even to those who are in their late twenties and thirties, the most inspiring slogan of the new psychology is that the best time in your whole life to learn anything you want to know or need to know, whether you are seven or seventy, twenty-five or forty-five, is *right now,* just where you stand or sit this very moment, the instant you lay down this book. It is inspiring because it is based not upon sentiment or theory, but upon critical experiments carried out by the most approved methods of science. So don't wait. Don't put off a moment longer learning that new trade or new game or new language or new field of culture that you have been planning and hoping for years to learn, but which you have begun either secretly or openly to fear you are too old to learn rapidly and well.

There are four good reasons demonstrated by modern psychology why you should not wait: First, psychology has proved that childhood is *not,* as has always been supposed, the best time to learn and remember what we learn, and it has shown there are other periods of life when you learn better and faster than you do in childhood.

Second, if you have learned something years ago and have not been *using* it a great deal since, either practically or spiritually, you have forgotten much, perhaps most of it, and will have to learn it over again if you want to use it now.

Third, psychology has proved that *the best time to learn a thing is just before you are going to use it,* whether you are seven, or seventeen or forty-seven.

Fourth, it has been demonstrated that you can start in to learn a new trade or a new language or a new philosophy or anything on earth you desire to learn up to forty-five at least and perhaps later, with the most comforting confidence of complete success in so far as mere age enters as a factor in the problem.

The long and short of it is that modern psychology has demonstrated that for practical purposes age is only a minor handicap, if a handicap at all, to learning anything you want or need to learn.

In the past half-dozen years a number of psychologists have made minor investigations into these problems, but the optimistic conclusions I have just voiced are especially forced upon us by the recent extended researches of Professor Edward L. Thorndike and his associates, of the Institute of Educational Research of Teachers College, Columbia University. With the aid of a generous grant from the Carnegie Corporation, which has fully recognized the importance of adult learning, this group of students has spent two years in studying from many angles and with numerous types of people the effect of age upon ability to learn.

The results are so encouraging that those of us who are anywhere past twenty-five or thirty should all take new heart for our daily tasks and gain a new confidence in both our mental and physical powers. Surely, these critical investigations into the ability of older people to learn will prove to the hitherto skeptical adult that it is worth while to make use of all his abilities.

Professor Thorndike has recently published both his own experiments and those of other psychologists in this field in an extensive technical research, *Adult Learning,* which is bound to be a source-book of inspiration and guidance to professional psychologists and educators for many years to come.

As one example of these experiments, Professor Thorndike made a comparison of the learning ability of four hundred and sixty-five students of Teachers College, who were candidates for the Degree of Master of Arts. These men and women were all teachers, school supervisors, principals or superintendents, and all were engaged in advanced studies that tested the higher mental powers. He divided them into three different groups according to age, namely, those aged twenty to twenty-nine, thirty to thirty-nine, and forty to forty-nine. The youngest and middle groups made about the same average grade of thirty-two, while the oldest group of forty to forty-nine actually did a little better. The older ages did the best. This one experiment throws into the discard an immense amount of bosh about losing our mental powers as we grow old.

At the heart of all these fallacies lies the age-old notion of the so-called "plastic mind of childhood." We have always been told that the mind of a child is especially impressionable, that it is in a particularly "plastic state," and that impressions received then go the deepest and last the longest. Of course, they last longer because they begin earlier, but do you learn any better or remember any better in childhood than when the brain has matured? A number of years ago, in a book I wrote, I pointed out that science had never offered the slightest critical proof that there is any such thing as the plasticity of the child's mind. You hear people every day lamenting that they did not improve their minds and learn things in childhood, or else that they had no chance to learn much in childhood. And they honestly give that as an excuse for not learning now. They think they learn so much more slowly that it is not worth while to try.

Along this line, one of the commonest things we hear people say to-day is that a new language can not be learned well after childhood; that childhood is especially the language learning period set apart by nature; and after that you can not without almost infinite labor improve your bad grammar or faults of speech or learn a foreign tongue.

Professor Thorndike has given this notion a body blow. He conducted extensive experiments in the ability of adults to learn the artificial language, Esperanto. He chose Esperanto because it is a purely artificial language built up on logical principles. It seems reasonably certain also that whatever is true of learning Esperanto would be equally true of learning Latin, Greek, French, German and other languages, or, for that matter, algebra, chemistry, biology, economics, and the like.

Esperanto has another advantage in that persons from twenty to forty have usually never tried it. They all start with a complete ignorance of its nature or principles, that is, so to speak, they all start from scratch.

Two groups of people were used, one of fifteen persons and one of thirty-three, ranging from twenty to fifty-seven years of age. The amount of time spent was twenty hours, ten in class and ten in individual study. All had the same teachers. The results were as follows:

Persons 20 to 25 gained 31.5 points.
Persons 26 to 34 gained 26.3 points.
Persons 35 to 57 gained 24.7 points.

At first glance this might seem as though the youngest group had considerable advantage. Speaking of the whole body of results, however, Professor Thorndike said to me: "The superiority of the youngest group was due almost entirely to their greater gain in following the oral directions of the instructor. In the remainder of the tests there was little or no difference."

On the whole we may say that the ability to learn Esperanto (and the same is probably true of any foreign language) does not decrease more than one per cent. a year from twenty-two to forty-two, these being the average ages of the youngest and the oldest groups. It sets at rest completely the notion that you can not learn a foreign language with great facility any time you want to.

This, however, does not tell us how older people compare with children. On this point Professor Thorndike went on to say:

"By the courtesy of the International Auxiliary Language Association, we were able to compare the ability of adults to learn Esperanto with the language-learning ability of children of fourteen to eighteen, and of still younger children. We found that pupils about eighteen in a good private school, who had over twice as much class study as our group who ranged from thirty-five to fifty-seven years old, and more than twice as much home study (provided they did not shirk their home assignments), gained a little more than *half* as much as our mature adults. The children of nine to eleven made still slower rates of gain, despite the fact that they were mostly children of exceptionally high intelligence. *All these facts are in flat contradiction to the time-honored doctrine that childhood is the period in which one learns most readily to read, write, speak and understand a language,* and also the notion that the early teens are the next most advantageous period. We are convinced that the gain made in fifty or a hundred or five hundred hours of study of French or German or Spanish or Latin by a group of any age from twenty to forty will be greater than the gain made by a group aged eight, ten or twelve of equal native capacity."*

Another interesting experiment on this point was performed by two psychologists, Doning and Anderson, as related by Thorndike. They put a man of twenty-one in competition with a woman of forty, supposedly of about equal intelligence, the experiment being to test each one's mental ability to write while reading either silently or aloud. The woman increased her facility just about as rapidly as the man in this

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*From *Adult Learning,* by Professor Edward L. Thorndike, by permission of the publishers, The Macmillan Company.

unusual and complex mental and motor exercise. The interesting thing was that after the lapse of two years they tested them again to determine which one had retained the increase in speed the better. The woman was distinctly better than the man, who was little more than half her age. It might be claimed that a woman has naturally a better memory, but Meumann, a great German psychologist, after extended experiments on people from seven to fifty-four years of age, concluded that you can memorize things a little better between twenty and twenty-four than at any other period. This is in contradiction to the old belief that our memories for the impressions and experiences of childhood are retained better than the memories of some other periods of life.

In view of even the few experiments so far related, the attitude people have always held toward learning in adult life seems especially pathetic. Every day we hear people of forty and fifty, and even of thirty, say, "I wish I could become a machinist, an artist, a musician, a stenographer, a linguist, but I am too old!" Even the great psychologist, William James, said people *can not* get any ideas after the age of twenty-five. He said the grooves of the mind were set and the power of learning new things was gone.

People have always believed this, and very often as a consequence the great things they might have done at thirty or forty or at seventy have remained unaccomplished. Here, for example, is a woman of forty or fifty whose husband has died and left her with children to rear but without money, and she honestly thinks she is too old to learn a business or profession. And the tragic thing is that *the business houses and offices have the same false idea.* Or here is a schoolteacher, tired of her work, but at thirty-five or forty she says, "I am too old to go into something new." I shall never forget the broken despairing voice with which a working man of forty said to me, when an electrical machine had been invented that did the work he had been doing by hand: "An hour ago I was a skilled workman; now I am a day laborer. I am too old to learn a new trade—it's too late to begin."

The new psychology is bound to work profound changes in the attitude of people toward all adult education and, happily, it is already beginning to work changes in the attitude of a few enlightened employers about taking in older people to learn trades and professions. As an example of this change of policy, Thorndike calls attention to the New York Central Railroad, which trained its old locomotive engineers to become expert electrical engineers when they electrified their lines out of New York City—a policy that worked immense benefit to the men and proved more economical than the training of green hands for this new occupation.

One question that comes into the lives of many a man or woman who has met with misfortune or who has lacked early opportunity is this: "Can I learn to be a stenographer or a secretary when I am thirty-five or forty years old or more?" Thorndike and his associates have made extensive studies on this point. They obtained records from seven classes representing four secretarial schools in 1926 and 1927 and three schools in 1925 and 1926. The students had studied shorthand and typewriting all the way from about one hundred to five hundred hours. His conclusion is this: "The end result is that ages seventeen to nineteen, and twenty to twenty-four are indistinguishable in their ability to learn shorthand and typewriting, and ages twenty-four to thirty, and thirty and over on the whole learn almost as well as those from seventeen to twenty-four."

Let us now turn to a few experiments upon the ability of older people to form new muscular habits, or new bodily and mental habits combined, all of which are reviewed by Thorndike. The experiments are simple, yet they go to the very heart of life and to the heart of every one's personal ambitions and education. One psychologist tried an experiment on five adult men, which you can easily try on yourself to find how quickly you can learn new habits. He had these men practise keeping two balls going in the air at once in the fashion of jugglers. At the start they could make only one to ten tosses before failing, but after only an hour's practise, they could all make at least thirty tosses without a miss. After from two to five hours' practise they could average over one hundred tosses without failing.

Another psychologist had two mature men practise tapping a telegraph key only thirty seconds at a time five times a day for thirty days, alternating right and left hand. Even with this minute amount of effort they improved from an average of 186 taps made in thirty seconds to 215 taps. It shows how easily adults can form new muscular habits. Another psychologist experimented to see how much adults can improve in observing small details. He had ten hospital nurses practise 140 minutes each during a period of ten days in picking out and canceling the zeros on a page where there were a thousand mixed numbers. They raised their average score from 45 zeros canceled per minute to 100.

Still another psychologist studied the ability of adults *to form four new habits at the same time.* He tested them on a very complicated method of repeating the alphabet forward and backward in four different ways with certain letters interjected at regular intervals to make it more difficult. Within a few days the time it took to do these four tasks simultaneously fell from 123 to 24 seconds.

Along this line, Professor Frank Freeman, of Chicago University, reports an experiment in which a psychologist took an eight-year-old child and its parents and put them through a course of training in tossing a shot into a tumbler that was placed several feet away. They each practised 1800 throws. The child started with 6 successful throws out of 100, and in the last 100 made 46 successful throws. The parents started with 32 successes and rose to 86. The ratio of improvement in this simple muscular habit was about the same.

Another psychologist, Noble, had three men thirty-two years old and three men twenty-one years old who, presumably, had had no previous experience, practise throwing goals with a basket-ball. The older men gained 28 per cent. and the younger men 25 per cent. Another psychologist, Lashley, had 19 boys and men ranging from fourteen to thirty-six years old, practise shooting with a bow and arrow. There was no relationship between age and improvement, the older men improving just as much as the boys.

Professor H. L. Hollingworth, former President of the American Psychological Association, conducted some extended experiments on various mental and motor habits of middle-aged and younger people. He took five individuals of nineteen to twenty-four, five of twenty-four to twenty-eight and five of thirty-three to thirty-nine, and put them through many learning tests. One test was to measure how quickly they could give the opposites of words. That is, if you say ''day,'' how quickly they can say its opposite, ''night,'' or the word ''cup'' as opposed to the word ''saucer.'' In this test the older subjects improved almost as rapidly in speed as the younger. He also tested their improvement in adding 17 to numbers from 20 to 80. Reduced to figures the improvement of the younger group would be measured by the figure 12, that of the middle group by 11 and that of the oldest group by 13. Certainly the difference is too slight to consider this degree of age as any handicap.

As to improving memory and reasoning power, Dr. Joseph Peterson, a psychologist, measured the ability of eighteen persons of various ages to learn a very complex, jumbled up matter of words and letters which required a mixture of both reasoning powers and memory. The task is too complex to detail here. Ten of the learners were college students and one a high-school student. The other seven were older, comprising a college instructor, two graduate students, an electrical engineer, a doctor, a woman of fifty who was a high-school graduate, and a bond clerk.

The older group did somewhat better than the younger. The older group learned the material in 5 trials while it took the younger group 7 trials. The latter averaged 243 errors while the older group averaged only 139. There were three of the younger group of college students who were worse than the woman of fifty.

Ballard, another psychologist, tested eleven individuals who belonged to one family and represented three generations, grandmother, children and grandchildren. The ages were thirteen, fourteen, seventeen, twenty-five, twenty-eight, thirty-four, thirty-five, forty-five and seventy. The material of the test consisted of eleven complicated puzzles. The thirteen-year-old and the fourteen-year-old were very bright children, while the seventeen-year-old was a mischief-maker and a failure in scholarship. The mischief-maker outdid everybody at the puzzles! Thorndike calculates a rough average of the improvements made and finds that the differences in improvement between the children and their parents and the grandmother were almost zero. The parents and the old grandmother made just about as much improvement as the children.

I suppose there is nothing that most adult people believe more firmly than the notion they can not improve their ability in mental arithmetic. Like so many things we believe about improving ourselves in advanced life, they have usually never tried it. Professor Thorndike measured the improvement in mental arithmetic of twenty-eight adult graduate students who averaged about thirty years old. He had them multiply mentally a three-place number, such as 657 by 964. The result led Professor Thorndike to say to me during my talk with him on the subject:

"It is reasonable to believe that graduate students twenty-five or thirty years old, after seven hours of practise with suitable periods of rest, will do such examples in less than two-fifths of the time they require at the outset, and they will probably make fewer errors."

We all often lament that we can not calculate simple problems without getting a pencil and a piece of paper. Yet it seems safe to assume that twenty minutes' practise in mental arithmetic every day for about twenty days would more than double our ability in this direction. It would be a habit that would be of immense value all our lives.

In another experiment, Professor Thorndike took nineteen university students, all over thirty-five, and drilled them every day for seven days in adding 48 columns of ten one-place numbers, such as 2, 3, 8, 5 and so on. They added one set of 48 columns each day. The total practise of each person ranged from about thirty-two minutes to about seventy-one minutes. For some unknown reason two of them gained little, but all the remainder gained from 54 to 287 units. If such small amounts of systematic practise in forming highly useful habits will produce such astonishing improvement, the way we neglect to improve our mental effectiveness is little short of appalling.

There is another notion that has been believed ever since men began to carve hieroglyphics on stone, and that is that childhood is the time to learn to write, and that you develop a certain handwriting and without great labor can not improve it. Thorndike carried on three extensive experiments to get at the facts. In the first experiment, eight adults thirty-four to forty-one years of age undertook to learn to write with the wrong hand. Four were right-handed persons and four were left-handed. It was found at the beginning that they wrote with the wrong hand about as well as the average eight or nine-year-old child writes with his right hand after two years of schooling. This gave a base line or starting-point.

The astonishing result was that these adults with about fifteen hours of practise on their ability to write with the wrong hand showed *more improvement than that ordinarily accomplished by school children using the right hand in two years of growth and schooling,* including one hundred or more hours of special practise in handwriting!

The second experiment Thorndike tried was one in which thirty-three adults participated, sixteen being between twenty and twenty-five, one being thirty-two, and sixteen being thirty-five and over. They were all right-handers and tried to learn left-hand writing. While the older group gained slightly less than the younger group, both groups gained as much in fifteen hours of practise as children of eight gain in two years in school.

In the third experiment Thorndike had four adults twenty-four to thirty-nine years old learn to use a typewriter. The two older learned faster than the two younger. In the same line, another psychologist measured the improvement in setting type by hand of a group of forty men ranging in age from eighteen to forty-nine. A wage bonus was given to induce the men to do their best. The difference in improvement between the older and younger men was an absolute zero, the older men improving just as much as the younger men.

Commenting upon these experiments of his own and those of other psychologists, Professor Thorndike said to me:

"We surely have here a strong array of proof that mature people can learn almost anything they want to. Adults seem eminently plastic and teachable in every mental function that has been tested. Of course, we have in these experiments dealt chiefly with people of superior intellect, such as college and graduate students. No doubt they would make greater improvements than dull persons, but there is nothing to lead us to believe that this is any different from what we find in childhood. We all know that bright children of five and ten or fifteen learn faster than average or dull children of that age. This is only what we should expect, but there is nothing to lead us to think that the dull person would not improve in proportion to his original ability very greatly.

"In fact," he continued, "if I had to compare all these results achieved by various investigations and draw a general conclusion, I should say that they demonstrate that *the ability of adults to learn is very close to the ability of persons seventeen to nineteen years of age.*"

CHAPTER XXIII

HE KNOWS IT IS NEVER TOO LATE TO LEARN

(Concluded)

LET us consider further some objections that may occur to your mind, and which Professor Thorndike mentioned in the last chapter, to the effect that all the encouraging things discovered about the ability of older people to learn rapidly and well may be true for college students and brilliant people, but that they may not work with people of average intelligence or less.

Professor Thorndike mentions another objection, which with many people is potent, namely, that they fear ridicule for undertaking new projects of learning in advanced life. Beyond question, this keeps many older persons from learning music or languages or some trade or profession.

In order to settle these questions with facts instead of theories, Dr. J. W. Tilton, one of Professor Thorndike's associates, conducted an extensive experiment on the men in prison at Sing Sing Penitentiary, New York. All prisoners at Sing Sing are tested for educational attainment, and those who show less advancement in education than average seventh-grade school children—that is, children about thirteen years old—are put to school and assigned to grades that correspond roughly to school grades from 1B to 6A. This enabled Doctor Tilton to compare the progress these dull men made, who ranged in ages from seventeen to fifty-four, with the average progress made by children in the corresponding grades in school.

The 307 men tested—certainly a good sample of dull persons in general—made on the average 82 per cent. as much gain in reading, writing, spelling and arithmetic, composition and the like, as is made by children in the corresponding grades in the same number of months of school. The children, however, have *four times as long a school day* as these prisoners had and spend more hours outside in reading, writing, spelling and arithmetic. Moreover, school children are of average intelligence, whereas these adults were below average intelligence. On this point, Professor Thorndike said:

"It seems certain that these adults learned these school subjects more rapidly than they would have learned them at the age of ten or twelve."

However, the experiment went further and compared the learning of the old dull-minded prisoners with that of the younger dull-minded prisoners. Complicated tests were used, and the results showed that the younger men were a little more apt in learning new habits, and a little less apt in breaking up old ones, but the older men retained what they learned a little better than the younger men. Speaking of the entire experiment, Professor Thorndike remarked:

"On the whole, the results with these adult men of low intelligence support the conclusion that the ability to learn in relation to age shows a slow decline from about average twenty-two to about average forty-two, and the ability to learn does not decrease any more in persons of inferior intelligence than in those of superior. But while there is a slight decline in the ability to learn as we grow older, this is *far more than offset by the enormous amount that we forget,* provided we are not constantly *using* what we have learned in younger years. We are led to the conclusion that the best time to learn a thing is just before we need to use it, for it is *using a thing that makes it an organic part of our education.* When these results have received full consideration, they may lead to important changes in the administration of our schools. They certainly point to the fact that provision should be abundantly made for people to go to school at all periods of adult life, and the money that has been expended in providing for adult education has been justified.''

A question often asked is, ''Do night schools, such as the night schools in the great cities and the 'Moonlight schools' of the Kentucky mountains, really pay?''

In order to answer this, Thorndike has made elaborate comparisons of the results obtained by 886 pupils in two large evening high schools where the pupils studied algebra, biology, civics, English, French, German, Latin and Spanish. The pupils ranged from fourteen to thirty and over—some of them being much over thirty. The net results show in Thorndike's own words: ''The pupils of age thirty and over gained decidedly more than those of age fourteen to sixteen, a little more than those of seventeen to nineteen, the same as those of twenty-five to twenty-nine, and less than those of twenty to twenty-four.''

Probably the time at which we learn the most rapidly is the period of about twenty to twenty-five. If, however, with these night-school pupils we placed those from twenty to twenty-four years old on a scale as being 100, Thorndike shows that the table showing the rate of learning in relationship to age would read as follows:

57	for	ages	14 to 16	years
84	”	”	17 to 19	”
100	”	”	20 to 24	”
86	”	”	25 to 29	”
87	”	”	30 and over	

We see the older people learn 87 per cent. as well as those at the topmost peak of learning ability, and better than those in their teens. There is a little decline in speed of learning from the twenties to the forties, but this slight decline does not compare with what we lose by forgetting what we have learned in early years, provided we have never used it. It is plain that if a man is going to need a foreign language, or a knowledge of chemistry or electricity when he is forty-five or fifty, it is utterly foolish to learn it when he is fifteen to twenty-five. From fifteen to twenty he can not learn it so well, and from twenty to twenty-five he can learn it only a little better than he can up in the forties. But unless he uses it during the intervening years he will usually forget from forty to eighty or ninety per cent. of it.

These experiments tend to show that there is a lot of bosh about the ''cultural values'' of things you can't use. A man cultivates his mind and spirit out of his life-work and the things he can use. This does not mean that reading poetry and literature and studying art do not expand our outlook and elevate our culture. A vast deal of poetry and literature is inspiring and liberalizing even if all we get out of it is the passing enjoyment of the hour. But after all, it is the things that sink in and take root in our lives, and that we use either for our work or play or our hours of meditation, that expand the moral and spiritual life and broaden the soul.

One poem that is memorized and frequently repeated in our moments of leisure or trial, is worth as much as browsing around through the whole of Shakespeare for passing enjoyment. A few Psalms and verses and chapters from the Bible that are worked over and thought about, and wrought into our habits of thinking and work, are worth more than a technical knowledge of all the sacred literature of the ancients.

There arises here the old question as to the time of life when people make their greatest achievements. What is the age, to use James Whitcomb Riley's phrase, "when a feller is feelin' at his best"? You remember Dr. William Osler said a man had reached his climax at forty, and from then was on the down-hill road and should be chloroformed at sixty. These experiments all indicate that a man has reached the dead-line when he *ceases to learn.* Some reach this at twenty, others at forty, others at sixty, while some never reach it at all. You have reached the dead-line when you hang up your diploma, or your union card, or your stenographer's or accountant's certificate and say, "I have finished my education." That is the day when you have really chloroformed yourself and are mentally dead.

We constantly see pictures in the newspapers and magazines of men and women who are doing great things at fifty, sixty and seventy. The idea is to encourage us to believe we can do as well, and all these experiments indicate that we can in proportion to our natural abilities. But let us examine the matter in detail. Some years ago Dr. Charles W. Dorland, of Chicago, investigated the lives of four hundred of the world's greatest men and women, and found they had made their supreme achievements at the average age of fifty, although some of them had done their greatest work at seventy, and some even at eighty years of age.

However, I had myself always supposed there were two inherent fallacies lurking in all these accounts of the great things achieved by prominent men in advanced life. The first was that, owing to their great natural capacities, these men had probably been doing great things all their lives, and we should expect them to keep on far beyond the age at which ordinary men can do their best. The second was that nearly all great men are men of extraordinary physical constitution whose average life is considerably greater than that of men in general, and we would, therefore, expect them, from their great natural vigor, to be doing big things at sixty or seventy years of age, while we should expect ordinary men to do their best at a much earlier period. We do know, for example, that men of genius are, on the average, stronger and live longer than ordinary men. About five times as many men of genius are living at the age of seventy as is the case with men in general.

But two investigations made by Thorndike have completely upset my notions. He first extended Dorland's work by making a more careful discrimination as to just who might be called the greatest men of history, and selected 331 names. There are 119 men who are found in both Thorndike's and Dorland's lists. The average "masterpiece age" of Thorndike's 331 great men is forty-seven and four-tenths years, as against fifty years, the masterpiece age of Dorland's four hundred. Of the 119 men common to both lists, however, the average masterpiece age is 52.

There are three questions, however, that this does not fully answer. First, do supremely great men and moderately great men have about the same masterpiece age? Second, do great men who live to be seventy or eighty or ninety, do their greatest work later than those who die in their fifties and sixties? And third, does the period of the prime of life of great men begin earlier and extend longer than with common men?

To answer these questions, Thorndike first divided his 331 men into two classes, "scientists" and "men of affairs.'' He then classified the men in each of these two groups according to their relative eminence as determined by the extent of their biographies, and on this basis divided each group into three classes, numbered 1, 2 and 3. Finally he divided both groups into five-year classes, according to the age at which they died, that is, those who died between twenty-five and twenty-nine, inclusive, were considered by themselves; those who died between thirty and thirty-four, inclusive; and so on up to those who died between the ages of ninety and ninety-four.

Considering the first question of long life and old age achievements, it was found for those who lived to be seventy years or over, that the medium masterpiece age of the scientists was forty-four, and of the men of affairs, fifty-three. Of those who died between sixty and seventy, the medium masterpiece age of the scientists was forty-five, and of the men of affairs fifty-one. We see, thus, that the men who died somewhat earlier have their masterpiece age within a few months of those who live to threescore and ten, and beyond. Of course, the long-lived men go on doing great things longer, but their prime is about the same.

If, now, we compare the most eminent men in the long-lived group with those of less distinction in the same group, the greatest long-lived men—those rated 1 and 2—had their masterpiece age at forty-six for scientists and fifty-three for men of affairs, while the lesser long-lived men—those rated 3 for greatness—had their median masterpiece age at forty-three for scientists, and at fifty-five for men of affairs. Among the men who died at an earlier age, that is, between sixty and seventy, the greatest, that is, classes 1 and 2, had a masterpiece age of forty-two for scientists, and forty-nine for men of affairs, while the less distinguished, shorter-lived group, gave fifty-two for the masterpiece age of the scientists, and fifty-one for the men of affairs. So it is clear that neither long life nor the degree of eminence cuts much figure in determining the average age when men do their greatest work.

Thorndike studied also the one hundred most eminent English writers, from Chaucer to Matthew Arnold. Of this one hundred, there were forty-six who lived to be seventy or over, and their median masterpiece age was forty-seven.

It may still be objected that we are dealing with great and famous people. Therefore, in order to bring these comparisons down among common men, Thorndike made an elaborate and critical comparison as to when great preachers and when ordinary preachers do their best work. It seems to me the results should be particularly encouraging to average every-day school-teachers, social workers, lawyers, merchants, doctors, skilled workingmen and ministers of the Gospel, who know they are not great persons and never will be, but who, nevertheless, carry on perhaps ninety per cent. of the work of the world.

For this purpose Thorndike studied the life histories of about one hundred and fifty clergymen of the Methodist Episcopal Church, all of whom lived to the age of seventy or over, and continued their work from thirty to seventy or beyond. It is impossible to go into all the details by which he measured the years of their highest work and standing, but he was able by critical methods to determine the time when the big-salaried preachers and the low-salaried ones reached the prime of life and did their best work. He was able also to plot out what he terms their highest ''plateau'' of most successful performance, that is, the number of years during which they were receiving their highest salaries, representing no doubt, their largest churches and appointments.

The work of each man was carefully traced from thirty to seventy years of age, and the results show that the abler men and the ordinary men did their best work at about the same time of life, and also that *the plateau, or years of best work, is just as long for the able man as for the less able man.* We are bound to draw the conclusion that the average preacher in the smaller churches can preach just as well and serve his congregation as efficiently at sixty or seventy when compared to his younger days as the famous city preacher, and that he can carry on his best work just as many years. The same, no doubt, holds true in all walks of life.

It is a temptation to fill many more pages in order to give at least a brief sketch of all the extended researches in this field, but they all lead to the same conclusion, that age is no genuine handicap to learning anything you want to learn or need to learn. There is a slight decline in total learning ability during the years after about twenty-five, but when we offset this decline by the rate at which we forget things that we do not use, it loses all practical significance. We are thoroughly justified in saying that the mind well-nigh knows no such thing as age; that enthusiasm, faith in our learning powers, capacity to improve ourselves scarcely know the passing of the years. I had always supposed that most of the talk about great things done in advanced life was just old folk's whistling to keep up their courage. But these extensive experiments show this is not true, that everybody has immense powers of learning and achieving that can be drawn upon at any moment throughout life with complete confidence of reaping abundant reward.

To me, this is all very hopeful and inspiring, not only for my own years that may lie ahead but for the future education of the American people. The most inspiring spectacle I see in the city of New York is the thousands of older people flocking throughout the year to the numerous night schools where they study everything from domestic science, salesmanship, mechanics and grammar to literature, biology, calculus and philosophy. My wife and I have taken a number of these courses ourselves to make up for things we failed to learn, or had no chance to learn, when we were young. In these classes we sit by the side of young men and women in the sixties and seventies. It is certainly encouraging to me to discover from these new researches in psychology that I can learn things when I am past fifty as well and probably better than during my undergraduate years in college.

It all shows that life is one long process of education and that nature intended this should be so, and gave us enduring mental powers to make it effective. We discover, through careful experiments of science, that it is actually and literally *never* too late to learn. A story has come down from the ancients that bears on this phase of every man's education. An old man asked his son to plant some fruit trees in order that the son might provide for his future years. The son replied, "I am too old, father, I shall never live to gather the fruit." He turned and made the same request of his grandson and received the same reply. The grandfather then planted the trees himself and enjoyed the fruit for many years afterward!

Another interesting experiment that Professor Thorndike undertook was that of securing personal testimony from 39 persons forty years old or over, 43 persons from thirty to thirty-nine, and 17 persons from twenty to twenty-nine, concerning each one's own learning, from childhood up. There were 163 questions that they answered, all the way from when they learned to swim, skate, dance, drive an automobile, sail a boat, ride a bicycle, play the piano, eat olives, eat raw oysters; when they learned to smoke, to drink coffee, tea or alcohol, and when they gave up these habits; on up to when they learned cube root and logarithms, and when they learned to earn their living.

Included were questions about their opinions and at what age they changed their opinions, provided they ever had any, about such things as the Republican and Democratic parties, or about Jews and Christians, or about Jonah and the whale.

A most elaborate treatment of the replies makes it evident, as Professor Thorndike says, that people change their opinions and learn things largely according to custom and expectation. People usually learn to skate when they are young just because it is customary, but they learn to dance, which is an equally complex motor skill, at all ages. They also learn to operate a typewriter and learn to sail a boat, *when it becomes necessary.* All the older people report that they expected it would be much harder to learn things when they were older, and all believed they could have learned them better when they were younger. But none of the expected difficulties are really of very much consequence. According to Professor Thorndike, "This personal testimony of a large number of people in all walks of life convinced me that adults learn much less than they might, partly because they underestimate their power to learn and partly because they are afraid of ridicule; but there is nothing in their testimony that weakens our previous conclusions that they can learn practically anything that it is necessary to learn any time in life when it becomes a matter of great desire or personal welfare."

It all shows, as I have said, that we die mentally the day we cease our efforts to learn. There is a fine saying attributed to Michelangelo that expresses the central maxim of this whole new psychology of education. Angelo was made superintending architect of St. Peter's Cathedral on his seventy-second birthday, and he carried on through the reigns of five Popes. When he was nearly ninety, and had lost his eyesight and become enfeebled in body, he still had his servants carry him into the great temple. As he ran those marvelous hands of his—marvelous because he had kept on using them—over the statues and decorations, the old, blind man exclaimed:

"I still learn! I still learn!"

And so, my friend, it is with you. Whether you have a great mind or a common mind, whether you are a genius or just an average man or woman, you are still a vital and effective factor in your home, your workshop, your community and the world, as long as you can say with old, blind Michelangelo, "I still learn!" And you have now, as never before, the authentic voice of science to cheer you on with the clear conviction, based upon definite knowledge, that if you wish to do and achieve and learn, *it is never too late to begin, and the time to begin is to-day.*

CHAPTER XXIV

HE NEVER LOSES FAITH IN THE MAN HE MIGHT HAVE BEEN

A MAN begins life as a germ-cell laden with incalculable potentialities which have accumulated throughout countless ages of struggle, defeat and triumph, and he ends life as a distinct personality with the feeling, at least, that he is a being endowed with the power of self-direction and control. No mechanist gazing at this germ-cell with the highest-powered microscope could possibly predict what the tiny combination of carbon and hydrogen and oxygen is going to become. He believes he could if he only knew enough. The newer developments in physics and chemistry cast considerable doubt upon this assumption. At any rate this germ-cell, whose potentialities have come to it from out all the soundless depth of evolution, comes by and by to be a living person—an altogether new creation in the world—who feels, if he does not know, that his thinking has some purpose in it, that he can choose an objective and work toward it, that, to some extent, he has a sort of divinity within him which can shape its own ends, rough-hew them how he may.

Few people, however, seem to have given much thought to this marvelous drama going on within them, some episodes of which they can observe in a growing child. Life offers no more fascinating spectacle than to watch a babe become a personality. We can roughly, at least, visualize the process. At first we imagine the little fellow is conscious of nothing but himself—

granted, of course, the Behaviorists will permit him to have a consciousness! We imagine he has feelings, pains and satisfactions, sensations of pressure and temperature, and the pull and push sensations that the psychologists call the kinesthetic sense, and many others; but probably all these sensations refer entirely to himself. Even the parts of his own body confirm him in this impression. He looks out one day and sees something waving in the distance—he does not know whether it is a foot or a mile away because he has not yet discovered how to place objects in space. The thing keeps on waving and by and by he gets it into his mouth and he has discovered his thumb! But he exclaims to himself, "That is myself; I thought it was something else." Another day he sees something still farther away and, after a great deal of squirming and wiggling, he gets it into his mouth and he discovers his big toe. But this sends a sensation through his little body up to his brain and gives him another shock; and he exclaims again, "Why, that is myself too; I wonder if I am everything here!"

There comes, however, another day when he reaches out and touches the side of his cradle; he gets no sensation of selfhood from this; and in that moment he has discovered the universe, the great universe outside himself, by working against which he will perish, but by working with which he will fulfill his personal destiny. He says to himself, "There are two things in the universe. There is an I and a not I, a me and a not me. There is my personality, my selfhood, and there is a universe of non-personality, non-selfhood, a universe within and a universe without."

Of course these are very broad strokes, yet it is by some such process that a child develops from a bundle of chaotic sensations into a self-controlled individual personality. At first he is somewhat like a telephone system with the messages all coming in from a thousand sources and he can hardly tell which is which or how to answer them. It is only slowly and painfully that he learns to connect them in a systematic way and send out intelligent messages to the outside world, that is, develops his behavior upon such a unified plan that people call it sensible conduct.

I think of no psychologist who has given us a simpler and more readable account of how a child develops his personality and gets his grip on both himself and the external world than Dr. Leta S. Hollingworth in her beautiful book, *The Psychology of the Adolescent.* Mrs. Hollingworth is one of the wisest persons we have to-day on the subject of child development, and her books on *The Adolescent* and on *The Gifted Child* should be in the hands of every schoolteacher and every parent who wishes to understand instead of dominate the child. One noted psychologist told me he had read the book on adolescence fourteen times; so I think parents and teachers can read it at least *once* with profit.

At first the child is the center of the home and the care of the parents, which makes him feel he is the center of the universe. Later he has to go through a period of what Mrs. Hollingworth happily calls "psychological weaning," in which he discovers there are other persons besides himself that are entitled to as much consideration as he. We are only beginning to realize what keen sufferings, what inarticulate yearnings children go through during this stage of their lives—the long struggle to find the true self with which one must live throughout life.

Of course, all our lives we are going through this development of the self, and painting what Everett Dean Martin, the psychologist, has aptly termed our "personality picture." The personality picture means not so much the true self we know ourselves to be, as the picture we should like others to have of us and of our personalities. We are even more deeply concerned about what other people think of us than with what we know ourselves to be. This is the origin of the urge to be important, to stand well with our fellows, to have them hold a wonderful picture of us in their minds, irrespective of what we may really be. The way this personality picture develops, as Martin and Mrs. Hollingworth have outlined it, is one of the most extraordinary things in human nature. The development goes on about us all the time in other people, and we are constantly engaged in it ourselves without even realizing it. It develops in us somewhat as follows:

The small boy has one picture of himself as a nice little boy at home, studying his lessons and minding his parents. He may not want to be that kind of boy at all but he most emphatically wants his parents to think he is that kind of boy and have them believe that he wants to be that kind of boy. He has found from experience this is the best way to stand well with them and to get what he wants. Then he has another picture of himself out among the other boys, a swaggering, loud talking, tough little "guy." That is the kind of picture of himself he wants to impress on the minds of the gang. He has also found from experience this is the way to stand in with them and be important. He has another picture of himself, especially when he gets old enough to notice the little girls he plays with and wants to win their admiration. He turns hand-springs and jumps off high places and exaggerates his heroisms. He has still other pictures of himself at school and church. As Mrs. Hollingworth says, he has also a picture in his mind of his sartorial self, his social self, his moral self and so on.

Now the little fellow at first sees no inconsistency in these various pictures. He is not a hypocrite at all; he merely wants to make good all around. It is the fundamental passion to make good which we all have that animates him and not any desire to deceive anybody. As the lad grows older, however, he begins to realize that these personality pictures do not dovetail. He finds he can not "get away" with all of them. He makes a great many efforts to do so but it gets him in bad everywhere. He finds he simply has to cut out some of these personality pictures that he has conjured up for the purpose of making himself important among the various groups of people with which he moves. He begins to see that these various pictures of himself are not only inconsistent with one another but that the different groups of people are beginning to see the inconsistency. His parents, teachers, the gang, et cetera, are beginning to "get on to him." He can not save his face and make good with all of them. In short, he discovers he must choose some kind of a *consistent* picture that will look well when hung up before the community in general.

Now, to speak for the moment directly to the boy and girl and to the young man and woman, the biggest question in your life, the center of nearly all your inner struggles and conflicts, the question upon which your very destiny hangs, is just this:

Which picture of yourself are you going to be true to?

It is plain you can not be all of these persons without being a hypocrite. You simply have to make up your mind to this great fact of life. The fellow who tries to be everything to everybody in the end becomes nothing to anybody. There is a famous passage by Professor James that you will find quoted in nearly all books on psychology: "Not that I would not, if I could, be both handsome and fat and well dressed and a great athlete and make a million a year; be a wit, *bon vivant,* and a lady-killer, as well as a philosopher, philanthropist and statesman, warrior, African explorer, as well as a tone poet and saint. But the thing is impossible. The millionaire's work would run counter to the saint's. The *bon vivant* and the philanthropist would trip each other up; and the philosopher and lady-killer could not keep house in the same tenement of clay."

There is nothing more important for parents and teachers than to understand this great life drama with its many anguishing conflicts that goes on in the heart of every boy and girl. It is of prime importance, as Mrs. Hollingworth points out, to teach the child to establish a rational "hierarchy of desires." The moral destiny of the child depends on his being able to set the values and meanings of life in a logical and ordered perspective; to find out what is most worth while and to determine on a personality picture that is consistent and satisfying, and within the range of his abilities both physical and mental. It is here that a child's reading becomes so important, because he gathers from it most of the heroes and heroines that he desires to imitate. I recall in my own experience, when I was a lad, some visitor asked me what kind of person I would like to be. I replied that it depended upon what story I was reading. At that particular moment I happened to be reading one of George Eliot's novels and was greatly attracted by a very solemn and cold old English lord. Nothing excited him or disturbed his poise. And for a time I became such a solemn ass that the family could hardly speak to me. I trust this personality picture has somewhat faded with the succeeding years. But it shows how profoundly important a child's reading is during the period of conflicting pictures of his own personality.

This field of psychology is considered with singular force and clarity by Dr. Clifford R. Shaw, of the Institute of Juvenile Research of Chicago, in *Jack-Roller,* a very significant book just published by the University of Chicago. Doctor Shaw shows how a boy's reveries and day-dreams, which are nearly all concerned with the painting of his personality picture so very largely determine whether he is to become a criminal or a good citizen. The boy is almost certain to take on the characters and the cultural patterns with which he is surrounded and about which he reads or which he hears talked of in the neighborhood. Along the same line, the Institute of Character Research of the University of Iowa, under the leadership of Professor Edwin D. Starbuck, has recently finished a three-year research on the problem of child reading. This research has just been published under the title, *A Guide to Books for Character.* It is a step forward of great importance. I wish my parents had had this book when I was a boy. I wish every parent and teacher had it now, as it gives a scientific answer to many questions that parents have been asking for centuries.

All the way from the cradle to the grave the building of a man's character centers about the problem of choosing a strong, consistent, balanced, personality picture and *never* departing from it. Your moral destiny, your social influence, your intellectual development, in short, your power as a person among your fellows, depends upon your choosing the noblest self that is within the range of your possibilities and abiding by it. When the old hypocrite Polonious, in *Hamlet,* said to Laertes,

> . . . to thine own self be true,
> And it must follow, as the night the day,
> Thou canst not then be false to any man,

he was right, provided a man has a sound consistent self to be true to; he was wrong, provided the man has never developed a well-knit and soundly wrought selfhood that is at all times consistent within its own domain.

It seems to me that conscious, deliberate hypocrisy is rather a rare thing. I think people are what we call hypocritical usually because they do not see the inconsistencies among their own various selves. Mrs. Hollingworth relates the story of a young girl who was torn between her passion to be a deaconess and her passion to be a circus rider. She spent the mornings reading the Bible and the afternoons riding an old horse, bareback, around the pasture. She doubtless, at first, saw no inconsistency between these two personality pictures; but when her family began to think she was crazy she must have waked up to the fact that she could not be true to two such discordant selves. Many people who we think are hypocritical are not intentionally so; they have just never waked up to the discord among their various selves which their neighbors easily perceive. The old deacon who is pious on Sunday and cheats his customers through the week is not usually so much a conscious hypocrite as he is childish and short-sighted. He is mentally and morally right back where this girl was, or where the little boy is whose picture of the world and life is not big enough or logical enough to enable him to see the inconsistency between the picture of himself, first as a good little boy at home, and second as a tough member of the gang on the street.

One of the supreme marks, therefore, of the thoroughly well-educated man is that he has chosen a sound, wholesome, vigorous, industrious, tolerant, open-minded self and stuck by it. He has staked his destiny upon it. Indeed, this self has *become his* *destiny.* He pictures his life with this self always the chief actor in the drama, the hero of his inner life. Perhaps the greatest poetic and dramatic expression of this universal conflict in the development of a human life is found in the Book of Job. No one can read Genung's profound book, *Epic of the Inner Life; Being the Book of Job,* without having this borne in upon him as a great revelation. I am not a Biblical scholar, but I think the first student to see the real meaning, the true grandeur of the Book of Job, as probably the greatest dramatic poem of all history was Professor Genung. He shows clearly that the various characters, Eliphaz the Temanite, Bildad the Shuhite, and Zophar the Naamathite, including the Lord and Satan, are simply the different passions and desires, that is, the different selves within the mind and heart of man fighting one against the other for supremacy. The torn and distracted soul of Job does not find peace until he comes once more to a great humility, until he repents in dust and ashes over the unworthy selves to which he had momentarily surrendered. He comes at last into a great unity of life, an ordered perspective of the spirit, and because of this great inner peace among the warring elements of his own nature, the poet says truthfully: "So the Lord blessed the latter end of Job more than his beginning."

This drama goes on in the life of every man. It begins in his childhood and the curtain rings down above his grave. And just in proportion as he has chosen in early life a great and noble self by which he abides, a self approved by the loftiest calls within his own being and by the highest demands of his fellow men for fellowship and service, does he achieve what I have already mentioned as the four ends of education, poise, power, peace and freedom.

It is out of this great inner struggle among a man's various possible selves that his ideals are wrought. All a man's life means to him when the day comes that he is through with it and must lay it aside, is how faithful he has been to his own ideals, that is, to his better and best selves—what Abraham Lincoln called, "the better angels of his nature." And we might ask here, what is an ideal? It is a question we can not answer. "Ideals," as Carl Schurz said, "are like the stars; you shall never succeed in touching them with your hands but, like the mariner on the boundless desert of waters, you take them for your guides and, following them, you reach your destiny."

No, you can not define in words any of the higher things of life. You define a thing only by reducing it to lower terms; and the ultimates of life such as love, faith, patriotism, you can not reduce to lower terms than themselves. You know them only by experiencing them. When you have entered into them, when they have entered into you, you feel within yourself what John Cowper Powys calls a "free poetic humanism"—you feel you have become possessed by "the wordless essence of things," and entered into a new control of life and its circumstances.

Yet while you can not define ideals, it is an easy matter to illustrate them. They are all about us. We live by them, love by them and die by them. I read the other day that a man had paid six thousand dollars for a little soiled piece of paper that had a few scarcely legible lines scribbled upon it. Your economist might say, "Why did he do such a foolish thing?" He did it because, as the story goes, one night a hundred and fifty years ago over in Scotland a young man lay for hours across the grave of his buried sweetheart weeping. By and by he stumbled to his feet and walked home under the morning stars, and then, in a little hut on the Ayrshire hillside, in the dawn of a Scottish morning, the godlike genius of Robert Burns poured all its glory and its agony into those few tear-stained lines upon that little piece of paper—*To Mary in Heaven*—lines that some critics assure us express the noblest ideal of womanhood in the literature of man.

It would be a simple matter to call to mind a thousand other examples. Every work of art and fancy is the effort to embody the artist's ideals; and in this respect the artist is the spokesman of the race. No one can say precisely what a nation's ideals are, but we see them all embodied in a simple piece of colored cloth that it calls its national flag. The cloth is nothing and the color is nothing. You can take a piece of the richest cloth—it may be woven of spun gold—and wave it before the multitude but it stirs no emotion because it crystallizes for them no ideal. But if you take the cheapest piece of cloth and cover it with the stars and stripes and wave it aloft, a million men will die for it. This is because it embodies the traditions, the organic documents, the dignity, the sufferings, the hopes of a great and puissant people. This is why art and literature are more precious to the race than all its science and all the wealth its science may bring. They embody the highest conceptions that men have been able to achieve of their own best selves. A man tries to approximate their ideals because they express to him the noblest creature that he knows. And a man's greatness or littleness in his own eyes, when he is honest with his best self, is measured by what he feels to have been his approximation to those ideals—those ideal selves that he feels in his highest moments he might have been.

So, I say the educated man strives always to keep faith with the man he might have been. His whole life is guided by a picture of that man, and education is just the effort to make that man constantly better.

The man that we all know we are going to be some day is what David Starr Jordan very happily calls "the after-self." A man has never laid the foundations of true culture unless he has chosen his fields of learning and effort with a view to building an ever-productive, ever-developing, happy and fruitful after-self. To each one of us in the long run that is what culture must mean—a continual preparation to meet some day a glorious after-self with which to live. This after-self is waiting somewhere in the future to meet each one of us, and education aims to see that it shall be a happy meeting. Speaking of that meeting—a meeting we can no more escape than we can escape death, Doctor Jordan says:

> Your first duty in life is toward *your after-self.* So live that the man you ought to be may, in his time, be possible, actual. Far away in the years he is waiting his turn. His body, his brain, his soul, are in your boyish hands. He cannot help himself. What will you leave for him? Will it be a brain unspoiled by lust or dissipation; a mind trained to think and act; a nervous system true as a dial in its response to the truth about you? Will you, Boy, let him come as a man among men in his time? Or will you throw away his inheritance before he has had a chance to touch it? Will you turn over to him a brain distorted, a mind diseased, a will untrained to action, a spinal-cord grown through and through with "the devil-grass wild-oats"? Will you let him come and take your place, gaining through your experience, happy in your friendships, hallowed through your joys, building on them his own? Or will you fling it all away, decreeing, wanton-like, that the man you might have been shall never be?
>
> This is your problem in life—the problem which is vastly more important to you than any or all others. How will you meet it, as a man or a fool? It comes

before you to-day and every day, and the hour of your choice is the crisis in your destiny!*

Many years ago I remember reading a story by that prose poet, Arthur Colton, entitled, *Mr. Smedley's Guest.*

Mr. Smedley was a rich man whose mind was wholly absorbed in stocks and bonds. One evening, when the family and servants were gone, Mr. Smedley dozed in his chair, but was suddenly awakened by the entrance of an unbidden guest. For the moment the rich banker was incensed, but the stranger was so ingratiating and charming in his manner that Mr. Smedley soon forgot his irritation and ere long found himself engaged with him in the most delightful conversation. The guest talked brilliantly and profoundly of many things—things of which Mr. Smedley had dreamed in his early years that he himself would become the master. The guest talked of literature and art, of philosophy and science; he ranged with easy familiarity over the fields of poetry and music, and roused all Mr. Smedley's old imaginings of the life of the mind and spirit—the kind of life that he had in his youth dreamed he would always live.

As the evening wore on, the guest spoke of Mr. Smedley's famous book that had captivated the world with its originality, felicity and charm. At first Mr. Smedley demurred, saying he could not recall having written such a book; but the guest described it in such detail that it slowly came back to Mr. Smedley's mind and he remembered it in full. Presently the stranger seated himself at the piano and played what he said was one of Mr. Smedley's famous compositions. Again Mr. Smedley had difficulty in remembering the music,

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*Quoted by permission from *A Call to Young Men,* David Starr Jordan.

but as the piece proceeded it all seemed to become familiar once more and he found his whole being attuned to its rhythm. The guest also spoke of the pictures that Mr. Smedley had painted and these too gradually came back in his memory. As the guest rose to leave, Mr. Smedley expressed his delight in his enchanting company, but faltered that he had not quite understood his name and finally said pointedly, "Who are you?" The guest replied, with his strange fascinating eyes that seemed to penetrate Mr. Smedley's soul, "I am the man you might have been," and vanished.

This is a picture of the life of us all. We plan in youth to do and to be so many things. Of course, we know as a practical matter we can not achieve all of these ambitions; but as we look back upon our neglected opportunities, upon our lack of courage and determination in adhering to our life plans, we see we could have realized vastly more of these ambitions than we have. We could have made far more of our youthful dreams come true. We planned that all our lives we would at least snatch moments to read the great books and to follow the great new developments of thought. But we suffer such little things to divert us from great aims! Instead of reading the great books we pick up the newspaper and read the latest murder sensation. Instead of visiting the art gallery and breathing the enchantment of the great masters, we read the comic strip or the current advertisements. Instead of listening to great music, we go out for the evening and dance to jazz, even when all we have to do to hear great music is to turn on the radio. This is not all waste of course. A man can not dwell always on the mountaintops. The rare man who tries to, we find a "high-brow," and he becomes a kind of bore. Life is made up of little things and only occasionally a grand thing. Even Ruskin came out of the clouds long enough to admit that things about the house would get out of place and get covered with dirt; and Emerson thought the little joke with our neighbor was immensely important. Life's little duties must be attended to, the dust must be kept off things, and the little jokes must be had to relieve the intensity of the responsibility and toil.

But the educated man, and he alone, knows how to mix the trivial with the great and to clothe the commonplaces of life with meanings that link them with infinity, with significances that make them a part of eternity. If education means anything it must mean what Professor Gilbert Murray finely terms a "stimulation and enrichment of the spirit," an entrance into "truer beliefs" and "higher desires," a lifting of a man "above momentary desires and egotisms," a learning "to see and comprehend that which is above one's self," and a training of the mind "to see the greatness and beauty of the world." And to achieve this we do not need to neglect the small in order to see and feel the great. It was John Burroughs, I think, who said that Ruskin found a hair on the back of his hand as interesting as a special revelation. It is only the educated man who can find great excitements in the little things. A great man can spend a lifetime looking at germ-cells which can only be seen through a microscope, but the little man is bored to extinction and thinks he has seen all there is to see by gazing for five minutes. Yet even the little man, I am convinced, can be trained or can train himself to see far more than he does.

As an illustration of this, I have just finished reading a technical study on how closely the ability of college students corresponds with their achievements. It is a bit depressing to find the ability ratings of a large sample of students to be above 16 while their achievement ratings are below 10. I think, however, this is a fair picture of nearly all of us; only in actual life the differences are probably far greater between our achievements and possibilities, between the man we are and the man we might have been. And the one and only thing that can bridge the gap, give us the great rewards latent within us and fulfill the promises of life is the thing to which men throughout the ages have agreed among themselves to give the priceless name of education.

CHAPTER XXV

He Achieves the Masteries That Make Him a World Citizen

Somewhere that always interesting young philosopher, Professor Harry A. Overstreet, says that every man should go and "get himself a mastery." He speaks of this with the easy familiarity with which we would say, a man should get himself a suit of clothes, or a home, or a wife.

I think this is a fine and stimulating way to look at it. It ought to be just a natural assumption that every boy and girl is going by and by to become a genuine master of some field of human learning or achievement. We shall never have a truly national system of education, indeed, we shall never have a real science of education, until we have succeeded in imbuing every youth with this passionate desire. I remember many years ago I listened to a lecture by Woodrow Wilson, then professor of jurisprudence in Princeton University. I had heard of him in my college days and by chance had picked up a book he had written entitled *Mere Literature and Other Essays,* and I became so enchanted with it that I memorized practically the entire volume. Indeed, most of my "original" essays and orations in college were suspiciously like it.

In his lecture Professor Wilson outlined four requisites of an educated man. I can not recall how he filled in the details but these four essentials seemed to me admirable as applied to the purely intellectual side of education. They bear also upon the emotional and character values that education ought to give.

The first essential was this:

He must know the general history of the world.

There has never been a time in the annals of mankind when this is so essential as to-day because we have suddenly entered into a world citizenship. We live in a time when the life of every man touches the life of every other man around the globe. No man, no community, no nation can any longer maintain any more than a fictitious isolation. How the practical mechanics of international cooperation can be brought about is a colossal problem upon which men for the next few centuries will differ; but the fact that it *must* be brought about is a question upon which men can never differ again. The problem is here and now. And beside the fact that a knowledge of the world's history expands a man's ideas, enlarges his world, indeed, enlarges *him,* it provides one of the very best masteries for making him a better world citizen.

If one were only moderately expert in this field one could, of course, write a volume about the cultural as well as the social value of history. However, to achieve a fair working knowledge of it, so that a man may see the place of his own nation and his own community and his own family and himself in the forward march of the centuries, is not such a difficult task. The reading of three or four volumes, wisely chosen, and really studied, will improve a man's knowledge amazingly. Some defects are pointed out by experts, yet for the average man *The Outline of History,* by H. G. Wells, can be made of untold value.

At any rate, no man can be as good a citizen or understand the issues of his own life or the issues before his nation, its place and duties in the world, without a fair knowledge of what men have done in the past and how they have conducted their social and political life.

Professor Wilson's second requisite for an educated man was:

He must know the history of human ideas.

The study of men's general political, commercial and social history, of course, leads naturally into the history of the ideas that have animated them through all these processes and changes and that have given them their philosophies, outlooks and ideals. Here again a volume could be written, and, indeed, many have been written that have essayed the task of reviewing the world's great ideas and showing how one idea has led to another, how men have handed on their thinking from generation to generation, and developed in orderly fashion their criticisms of life and their views of man and his place in the universe. Every philosophy has in it something of truth,—it may not be the truth of science but that matters little. There is no reason to suppose that, because a philosophy is not scientific, it may not be immensely true. A flash of poetry, a flame of passion, a gleaming gem of philosophic reflection may reveal some of the great unsuspected potencies of life more truly than all that the experimental sciences with their mechanistic instruments ever have or ever shall reveal.

Moreover, unless a man knows what men have already thought and what they have already tried, he does not know any better than primitive man did what to think or what to try. Professor Wilson pointed out what I have previously mentioned, that every generation has to try its financial experiments all over again, obviously because the masses and, sometimes, the leaders are ignorant of what men have thought and tried before. Otherwise, they would surely not be foolish enough to try the same experiments again. We hear a great deal about the ''lessons of history.'' There are such lessons, an infinite number, huge, impressive, stimulating, terrifying, vital; but it is hard for the masses to learn or believe them, because they are not educated. Even when the leaders themselves know these lessons by heart it is their most difficult task to teach them to their followers. The masses will never believe them except to the extent that they believe their leaders; and many a brave leader has fallen, not because his teachings were unwise but because his followers distrusted his vision and wisdom when he begged them to heed the clear lessons of history.

Scarcely anything, therefore, is more serviceable to a man in obtaining a mastery of himself and his world, which is the final object of education, than for him to gain a sound perspective of the great ideas which have guided men down the centuries. I know of no book that brings this out more clearly and that gives a man a sounder view of his own present-day position politically, industrially and intellectually, than the recent brilliant book by Professor Harry Elmer Barnes, *Living in the Twentieth Century.* It is, I think, the best exemplification in our time of Professor Wilson's first two essentials of an educated man. The volume edited by that clear-headed historian, Professor Charles A. Beard, *Whither Mankind?*—although it contains some serious errors with reference to my own opinions—is another expression of immense value for realizing Professor Wilson's educational ideals. It is difficult to keep from recommending a dozen other books which, if they are carefully read, will almost fit a man for passing Professor Wilson's test; but the foregoing are illustrative examples. Such books are *not hard to read;* anybody with common sense can read them with profit and delight; and when such books are really read and reflected upon, it is amazing and gratifying how they add to a man's breadth of view, his knowledge and tolerance, and how they aid him to keep his head clear amid the avalanche of *isms* which the pestiferous propagandists of every type and variety are letting loose upon the defenseless head of the modern man.

Professor Wilson's third criterion of an educated man is:

He must know one science.

I have already said so much about the value of science in education and how the scientific, open-minded method of thinking is the only method that gets anybody anywhere in a practical way, that it would be mere repetition to say any more here. However, there is one point I have not brought out about the thorough mastery of any subject of great human importance: it *organizes* all of a man's knowledge and thinking. Moreover, it solidifies and strengthens his memory. Psychologists do not know much about memory, but all they do know indicates that we remember a thing chiefly because it hooks itself up with other facts and ideas already in the mind. Any one knows this fairly well from experience. If, for example, you have often visited a certain city and then hear of something new that has occurred there—a murder or a divorce or whatever it may be—you are much more likely to remember it. It seems to put out little hooks, so to speak, and attach itself to a number of other things you know about the town. If you tell me a new fact about some phases of psychology or biology I shall probably never forget it. It is no effort; it just sticks there and I could not forget it if I tried. This is because I have done little else for the past twenty-five years except read and study and think about biology and psychology. But if you tell me something about the Sanskrit language or chemistry or the phosphate industry in Chili, it will likely, as ''Amos 'n' Andy'' say, ''go in one ear and out both.'' I know almost nothing about these matters, although perhaps I should if I were a better educated man; so I have to suffer the consequences of my ignorance and soon forget what little I am told or read about them.

It is for these reasons that you can never become an educated man by browsing around and gaining a smattering of a thousand and one subjects. You become an intellectual jack-of-all-trades, and master of none. You must achieve a mastery of some field of knowledge about which to organize your whole knowledge, just as the body organizes itself about the spinal column; otherwise you will never know anything much for certain and you will not have a large enough body of information about any one field of thought to organize your knowledge and so remember what new things you learn. Your knowledge will not become a progressive mastery of the life and thought of the world because you forget about as fast as you learn.

It matters little what science you take up, *just so it is a science, and just so you approach it by the methods of science.* It may be only a scientific knowledge of stenography or of bricklaying, but if it involves scientific methods and the scientific processes for achieving truth, it gives you a basis for a better orientation of your place in society and in the world. It is astonishing how much the commonest man may learn if he will but stick to one subject until he has really found out something about it, has discovered its relationship to other subjects, and has used it as the basis for organizing all he learns in any field into a continually broader view of the problems of culture, life and destiny. So we must, I think, agree that a mastery of one science is essential in this age to an educated man, even though he be a poet, a musician or a dairyman.

Professor Wilson gave as the final requisite of an educated man:

> *He must know one language—preferably his own.*

I do not wish here to get into the time-worn argument with the advocates of the classics—those who believe that a knowledge of the classics, especially Latin and Greek, is essential to a cultivated man, or what we now hear spoken of as a "cultured" man. I venture, indeed, to digress to say that I have never been able to see how we could have a *cultured* man. I can see how we might have cultured buttermilk, or cultured anti-typhoid serum, but I agree with one leading professor of English that to speak of a "cultured man" is very much like speaking of a "well-egged hen." I do not insist on this, partly because I was forced to spend so much time on Latin and Greek in my youth that I acquired little knowledge of English, the one thing that at this moment I am desperately in need of. The psychologists and neurologists may find that the learning of one subject sharpens our wits in general; they may even prove some time that learning Latin and Greek is the best way to learn English; yet it seems to me if I could have spent the three years I spent on Greek—three hours a week, and I learned it pretty well and loved it—and the five years I spent on Latin—five hours a week and I learned it miserably and hated it—in learning something about the English language, I would now be writing a much more enjoyable book. If I could have even spent that time learning something about Greek and Latin *culture,* about their thought, philosophy, manners, commerce and politics, I know I could have made this book much more interesting. But *I did not have a chance*—not even half a chance, because, after spending hours and hours, puzzling out the meaning of a few lines, and parsing a few verbs, I was too exhausted and disgusted to learn or care anything about the life and thought of these great and interesting peoples. Maybe I learned something. Maybe I have a bigger mind, but I know also that I have a vast ignorance of my own mother tongue that I need not have had, just because I had no time or energy with which to study English. I almost lost interest in it as well as interest in Greek and Latin culture because my energies were diverted to finding the origin of Greek prepositions or outlining the obscure and illusive characteristics of Latin nouns of the fourth declension.

I suppose there are great masses of argument on the other side. I know Professor Paul Shorey has written a delightful book in defense of the study of the classics—a book whose style is like a piece of woven tapestry in its richness of coloring, fineness of texture and delicacy of patterning. It may have had that effect upon him; it may have that effect upon his students; it may be why he writes with such grace, music and charm; but, as for me and my house, I feel we learned very little, and that, unless we are going to learn a language to the point of real mastery—something *vastly different* from what the average college student does—we shall in the future devote our energies to the speech to which we were born, so that what little we do learn we shall be putting constantly to use and thus adding to its effectiveness and power.

I am convinced that nothing becomes educative that is not used. *It is its use that makes it educative.* Otherwise it is forgotten. And while forgotten experiences may, as the Freudians claim, be constantly struggling for expression and thus influencing our lives, I can only say that if my Latin and Greek is thus desperately striving to get into the field of my consciousness and suddenly give me an unwonted command of beautiful and expressive English, I have felt no sense of the inner struggle, and my readers do not seem to have noticed any indication that these noble tongues of the ancients have grasped my pen or typewriter and given to my prose either ''sweetness and light'' or majesty and power.

Mastery of one's own language is certainly a great educational enterprise and one worthy of lifelong effort. It is commonly believed by psychologists that the degree to which a man can use his own mother tongue is, perhaps, the best test we have of his real intellectual ability. Mr. Johnson O'Connor, Director of Personnel of the General Electric Company, has given mental tests to hundreds of executives, and he told me that the thing that surprised him most, even among executives of little formal schooling, was their astonishing command of language. Out of thousands of people to whom he has given a vocabulary test only eight made a perfect score and of these the majority were executives. He attributes this to their intense capacity for work. Others might maintain it is a natural capacity. But even Herbert Spencer fifty years ago said that you could tell the caliber of a man's mind by the general terms that appear in his conversation. If a man is always talking of particular little things, the trivial and special occurrences and facts of life, and does not draw from them any generalized considerations or principles, you can be fairly sure he either has a small mind or else a small education. I think, therefore, we may agree with Professor Wilson that there is no finer mark of an educated man than a genuine mastery of his native speech.

And I feel that any discussion of education would be utterly incomplete that did not contain a plea for the power of *spoken language.* We hear a great deal about the "slovenly speech" of the American people. But I think it is true of all peoples. *A man does not know his native tongue until he can speak it clearly, distinctly and beautifully to his fellow men.* This book should really contain an entire chapter on the subject. I do not believe I overemphasize its importance merely because I have made a profession of public speaking and have devoted thousands of hours to the endeavor to master effective speech production. Almost the most discouraging thing to me in modern education is the very slight attention paid to this important feature of life and culture. I have real difficulty, in talking with high-school and college graduates, to understand what they say. They mumble their words, mouth their vowels, and emit a meningless concatenation of irrelevant noises that confuse instead of express thought. They are not the only offenders; I go to numerous scientific meetings and listen to long discourses by distinguished scholars and scientists that are nothing but a series of mumblings, grunts and vocal raspings wholly unintelligible even to their own colleagues who are sitting not ten feet away. Many great scholars not only do not know how to talk aloud but have not the slightest idea how to meet and master the acoustics of the room in which they are speaking. Not only are all these matters utterly unknown to them but nobody seems to care. Their colleagues take it as a matter of course that they will not be able to follow the speaker, and will have to depend upon reading his address later in the technical journal, to find what the whole convention has been about. What terrifying bores they must be to their students; no wonder half of the students flee for home!

It is a temptation to extend this plea not only into one chapter but into two or three; but I confine myself to saying that if *one one-thousandth part* of the time and effort devoted to high-school and college athletics could be devoted to the enormously healthful, stimulating and thought-clarifying athletics of breathing, tone production, gesture and the bodily expression of thought and emotion, it would work a revolution in our American speech. It would be a lifelong joy to the students, a lifelong method of health upbuilding and maintenance, and a great social and financial asset as well. I should really have included, as one of the most distinguishing marks of a man of genuine culture, the power to speak his native tongue with force, rhythm, poise and effectiveness.

However, if a man has gained Professor Wilson's four great masteries: a clear outline of the world's history, a connected view of the main developmental ideas of the race, a knowledge of one science and a special knowledge of his mother tongue, he has laid the sound foundations for becoming a world citizen. Indeed, it is only such a man who can make the modern world safe for any kind of free citizenship. I agree with Professor Gilbert Murray in his fine address on *The International Aspect of Education,* delivered before the world conference of Education Associations at Geneva in July, 1929, that the direct teaching of internationalism or of any aspect of good citizenship does little good. I think the only way to develop a safe international attitude is, as he suggests, to educate a vast number of our young men and women in all countries with a large body of common knowledge and to take them as nearly as possible through common educational experiences. The thing that draws men together is common knowledge, similar memories, comparable experiences—in short, a common culture. When Edmund Burke spoke "to empty benches and future generations" on *Conciliation with America,* his most eloquent appeal, the one that has bound the English race closely together for a hundred and fifty years, was that they had a common culture, united hopes, similar laws and privileges and spoke a common tongue. Burke, as Professor Wilson said, "uttered with authentic voice some of the best political thought of the English race" when he denounced sending soldiers against the Colonists and cried out that their very speech would betray them to be brothers. Blood brothers may be reared under the same roof, but unless they have similar culture they have little in common. It is common culture that makes men brothers much more than common blood. Without this, though they sprang from the same womb they can not understand one another. They do not have the same outlook on life or history.

When, therefore, vast numbers of people have a similar knowledge of the world's history, when they have absorbed the same great developmental ideas that have made history, when they have become possessed of the scientific outlook, and when they know the great literatures through translations into their own language and through the fact that many learn as students actually to converse with each other in the great cultural tongues of the modern world, then will come our best chance of world peace. We can not insure world peace. Men who have simple panaceas for insuring it do not know the roots of history, nor do they know the roots of human nature. War is as natural to man as peace. As Professor G. T. W. Patrick, of Iowa University, has pointed out, "We are descended from the men who loved to fight and from the women who loved babies.'' We are descended from men who could throw straight and hit hard and who enjoyed doing it. And our mothers, who loved these men, loved to give them sons with the same iron in their blood, the same pride in their veins, the same courage in their hearts. It is no easy matter to find in industry and money-making, in sports and pastimes, in jazz and bridge the ''moral substitutes for war.'' Soda-water is a poor substitute for the blood our ancestors drank as they went singing into battle.

Our surest hope lies in education. If not there, then where shall we find it? I for one do not know. Indeed, I have no hope except this and the belief that *common culture may lead to common machinery and common respect for that machinery for keeping the peace of the world.*

In educating our young men and women into that self-mastery and those cultural skills which make them world citizens, I like immensely the address delivered by Professor Frank Cody, Superintendent of the Detroit city schools, before the Department of Superintendence of the National Educational Association at Atlantic City on the eighth of March, 1930. His subject was *Education in the Spirit of Life.* After showing that we must vitalize our studies of history and science and literature and make them, not merely intellectual performances but agencies of living, he develops six great features of life itself for which our young people must be trained, if they are ever to become really educated men and women. These six features of life are as follows:

Life is Practical.

''Education must be usable. We are no longer training for a leisure class.'' Everybody must work, must earn his keep; and he must do it in the best and happiest way possible; education must be practical because life is practical.

Life is Dynamic.

"Education must be vital, alive, active." It must meet a world that is moving, a world in which the only thing that does not change is change itself. The reflective, cloistered student is to-day out of place. We don't know what to do with him. He doesn't earn anything, even his own salt. Consequently education must be dynamic because life to-day, as never before, is a whirling dynamo.

Life is Recreative.

We no longer have a leisure class, but machinery has, to some extent, put everybody in the leisure class. "Machinery has given the workmen more leisure and hence more temptations. Increased leisure brings with it a possibility of social disintegration." Education must train men, therefore, for play as well as for work. Indeed, it is a mark of an educated man that he plans for all the play possible. It was Professor Patrick who first showed us why we play, why children play. We do such things as throwing, batting and kicking balls, engaging in rough-and-tumble scrimmage, climbing dizzy heights, indulging in games of physical prowess for the sheer joy of exercise, and we take with excitement "the cool shower shock of the plunge in the pool's living water,"—all because these stunts and exercises were *useful to our ancestors.* They preserved their lives by being expert in them. Those who could throw the straightest, hit the hardest, run and climb and swim the fastest and who *enjoyed* doing these things were those who survived in the struggle for existence.

So, when a man plays, he is satisfying, not a mere sentiment or a foolish desire for pleasure, but is fulfilling the deepest organic needs of his being. That is why play rests a man from his work. A man who has worked all day in his office plays a fierce game of hand ball or golf or gesticulates wildly or yells himself hoarse at a ball game and feels afterward a strange sense of restfulness and peace. He has gone back to the old primitive organic drives of the race, he is an animal once more, using his wits solely in attack and defense—even vicariously when he sits and yells from the bleachers—and it rests him from life and civilized responsibility more than anything. Men drink alcohol chiefly to gain all this cheaply, but one is really recreative while the other, unless extremely moderate, deceives and ends in disaster. Besides physical recreation, Professor Cody advocates industrial, domestic and commercial art and the higher forms of painting, sculpture and architecture as means of recreative enjoyment—the enjoyment that truly re-creates and educates.

Life is friendly.

Education should teach a man the art of friendship with men of all races, colors and creeds. It should teach him that the universe itself is a friendly place, and that the promises of life are in the end to be trusted.

Life is cooperative.

Education must teach a man his place in the community and his duties toward it. By every cultural route which can be laid to the pupil's mind and heart, he must be made to feel that we are members one of another, that we *are* our brother's keeper. Education must be made a living experience through which a man discovers that he can not live to himself alone, and that his richest opportunities for expanding his own outlook, fulfilling his office as a citizen and increasing the fragrance of his own nature lies through ceaseless cooperation with his fellow men.

Life is idealistic.

Men live by ideals far more than they do by the facts of life. The physical man you see walking about piling bricks or keeping books or selling merchandise, is not the real man at all. The real man is out and above in the world of imagination, of ideals, of dreams. And to provide this real man with a stock of the greatest dreams and ideals that have come out of the struggles, hopes, aspirations, defeats and triumphs of the past—to give him these as the living realities of his own life—is one of the great aims of education. Education must fit a man for his job because he must make a living, but it must provide him his ideals because he must make a life. Education must be practical because life is a hard practical thing; but it must be idealistic because man is a dreamer; and "dreams are the makers and feeders of the world."

This is not impractical idealism, but is something for "human nature's daily food." Just the other day a speaker before the National Academy of Science defined a practical man as a man who "thought and used only the ideas and practises of the last thirty years." Speaking to our Dutch Treat Club in New York, Mr. David Saranoff, president of the Radio Corporation of America, in a beautiful and electrifying address commented upon this statement to the effect that such a man would never do or create anything new. He pointed out that all the developments in science have come from men who were practical enough to utilize the past but who were idealistic enough to be constantly looking to the future. Indeed, it is such men who create the future, men who have made the past, at least in science, a march of progress and who are the only ones to be depended upon to make the world better and happier in the unborn tomorrow.

I think we see then that education in our day must have as one of its chief aims to make a man an effective citizen of an intellectual, social, industrial and political world as large as the planet and as wide as the race. This is the only education that can give a man a healthy, realistic patriotism toward his own national culture. A man so educated, with every side of his copious nature open to all the currents of his contemporary life, is the only man who has really thought his way into the social processes of his time, who has become a creative legatee to the heritage of the past and who can so utilize that heritage that he becomes an effective partner in a truly progressive social evolution.

CHAPTER XXVI

He Cultivates the Love of the Beautiful

I FEEL sorry for the man who has never gone without his dinner to buy a book of poems, a ticket to a concert, a little statuette or picture, or a pretty rug or chair for his home, or even a pretty hat for his wife.

"Give us the luxuries of life," said John Lathrop Motley, "and we will dispense with the necessities." What he meant, I imagine, was not the vicious luxuries, the ugly luxuries that satisfy not, the "expense regardless of pleasure" that many people indulge in, but luxurious friendships, luxurious human relationships, luxurious appreciations of the stars, the flowers, the trees, the hills; the luxuries of pictures and books and music, and what, to an educated man, is one of the most luxurious things in life, tolerant, gentle, distinguished and beautiful manners.

Motley, no doubt, had in mind those real luxuries, the most of which a poor man can have, although, of course, beautiful original pictures and works of virtu can be purchased only by the rich. And we should remember that the Greeks, who were probably the happiest people in history—so gay and so in love with beauty and joy that, as the poet Shelley said, the imagination refuses to believe such people ever really lived—we should remember that they put their pictures and statues about the streets and groves and public buildings where everybody could enjoy them and live by them.

But some tired workingman or worn-out housewife may chance to read these pages and exclaim, "It is easy to sit in an armchair and write lovely pieces about the beautiful world and get paid for doing it; but just wait until the children get sick and the rent isn't paid and you lose your job, and then you will find something more important to think about.''

Well, I have had about my share of the world's hard knocks; no more than my share, I suppose, but I believe I have registered a rather full quota of almost every type and variety. And I do not deny that such things are big and important. They are. They sometimes seem more than human nature can bear or ought to bear. But my point is trying to see that the beautiful has helped me to bear them. Beauty gives us courage; without it, it seems to me that sometimes in my life I would scarcely have been able to live.

When I speak of beauty, I speak of it as something far more vital than I believe it is in the lives of most people. I had this borne in on me very poignantly, indeed, almost ludicrously, during a trip I made recently with Mrs. Wiggam in an observation car through the Rocky Mountains. We rode for two days through some of the grandest scenery on earth. Yet, strange to say, only one other person besides ourselves really paid much attention to it. At least ninety per cent. of the time the thirty other passengers in the car spent reading magazines and novels, or gossiping about politics and bridge, and how to make salads and where to buy dresses that were chic and cheap and how to win money in the stock market. Just why they put magazines in an *observation* car is something that I have not been able to fathom. Indeed, they are now adding telephones and radio—God save us who still love nature for its own sake! Just why it adds to the pleasure of seeing a majestic range of snow-clad mountains or rolling prairies or multi-colored deserts to observe them to the accompaniment of *Why I'm*

Crazy about You, rendered by the Hoffbrau Restaurant Jazz Band, through the courtesy of the National Silk-Lined Casket Association, is difficult to imagine. No research has yet been made on the subject but it is worthy of the attention of our experts in abnormal psychology.

In so far, however, as the finite mind can go, I judge that all these artificial means of entertainment are due to the discovery by the managers of the railroads that there are very few people who really *understand* beautiful scenery, who really *know* nature and love it with informed discernment and cultivated imagination. Understanding and appreciating scenery is as difficult a feat of the mind as understanding great poetry and art. In fact, I have found from many years of travel that the person who really understands scenery is very rare. There are as few people who apprehend the difference between good and bad scenery and the different types of beautiful scenery as there are who understand landscape etching and painting.

I recall one gentleman who sat next to me for two hours on this observation car, reading the *National Geographic Magazine* and looking at the *pictures* of mountains in Norway and Sweden. Had he looked out the window he would have seen actual mountains of as great beauty and of even greater sublimity and grandeur. For several hours I was forced to sit next to a couple of ladies, bejeweled and very much given to discussing dresses and dances and the decline in the morals of bootleggers, both of whom were tremendously annoyed because I tried desperately to twist around and get a good look out the window. There was one large fat traveling salesman who hurried through his meals—a gesture that did not reduce their quantity,—in order to rush to the rear of the train and secure the best observation seat where he always promptly went to sleep! One woman was so preoccupied discussing her operation that while sitting on the rear of the train, she suddenly got to her feet and said to the conductor, "Which way do we go to the dining car?" All such personal chatter seems to the true lover of nature a brutal sacrilege. "It is a sure sign of an uncultivated mind," says Powys, "to allow one's own casual chattering to interfere with one's enjoyment of nature." And it is a sign of infinite boredom and capacity for boredom to let one's chatter interfere with somebody else's enjoyment of nature.

The fact that you put people in an observation car does not mean that they are going to observe anything. Some will and some will not. It is all owing to what they have educated themselves to observe and appreciate. It was my privilege recently to deliver an address at Colgate University upon the dedication of a fine new chemical laboratory. I felt constrained to say that putting students in a magnificent laboratory and surrounding them with marvelous apparatus does not, of necessity, mean they are going to discover anything. As one reads the history of science one is impressed with the fact that many marvelous discoveries were made by great men with very crude apparatus. Whether Faraday or Pasteur would have made more discoveries if they had had the "advantages" of the great, almost miraculous, laboratories of our big universities and industrial companies—well, we can only guess.

Apparatus and opportunity will not, of themselves, make a discoverer in science; and beautiful things, beautiful scenes and skies, will not of themselves make a man an artist or an understander of beauty. Beauty comes from within. Every man creates his own world of beauty; he must train his own perceptions, synthesize his own images, direct his own emotion. It may be that some souls, such as Keats, and Wordsworth, and Shakespeare, and Omar Khayyam, and Corot, and Gainsborough, and Turner, and Raphael, and Michelangelo, and Chippendale, and thousands more of the world's great creators of beauty, were simply born to beauty as the sparks fly upward. But there was not a man among them that did not undergo long and patient training of all his senses and all his logical faculties before he could give ordered expression to the beauty to which he was born.

Every man is born to beauty in the same way. All may not enter the fine and high company of the creators, but every one may enter the precious, gentle company of the appreciators. He must train his senses, however, to gain admission. He is himself the judge of his own credentials. He knows when he has been admitted. He knows that he possesses something precious and abiding that the average man does not.

I am convinced that the average man, even the so-called educated man, does not usually possess any critical and trained sensitiveness to beauty; it is the rare person who knows its canons, or has made of his mind and heart still and holy altars for its worship. This conviction is based on a great deal of observation and a variety of evidence. John Ruskin concluded, after lecturing many years on art, that most people gain their idea of the color of the sky, not from looking at the sky, but from seeing pictures. During my fifteen or twenty years as a traveling lecturer, I never saw a half-dozen people *studying* the sky. I find very few people know anything about the sky or care anything about it. They do not even know the infinite differences between the northern and southern skies, and the differences between the sunrise and the sunset. In fact, I never knew but two or three people who actually got out of bed to see what the sunrise is like.

I have seen many going home at that time but they were not in a mental state to be absorbed in the beauties of the dawn. To discuss the beauty of various types of sunrises in a mixed company leads only to jokes and laughter.

Very few people know any of the infinite variety of characteristics of the sky at different seasons of the year or different times of day or night. They even believe that blue skies are all alike although there have never been two since it was said, ‘‘Let there be light,’’ that were the same.

Few people know anything about clouds or care to know anything. To sit for hours in rapture, merely gazing at the clouds, with your heart filled with unimaginable longings until your whole being seems to become a part of the great peace of the heavens and through your mind there seems to float the memories of all the experiences that men have ever had—this appears to the average man a silly waste of time. But it was out of this gazing at the skies and stars, and living through their changing moods of sunshine and thunder and storm, this capacity to take all the moods of nature into their being as they breathed the air about them, that enabled the shepherd prophets of the ancient Hebrews to give us some of the noblest poetry in the literature of men. In a passage of intoxicating beauty, vigilant, felicitous, gracious and, at the same time, powerful beyond any expression except his own, John Cowper Powys, in his *Meaning in Culture* has told us better, I believe, than it has ever been told before what this deep and still and passionate enjoyment of nature may be to a truly cultivated man:

> Let him give himself up to the warmth of the sun as it falls upon that tree-trunk and that patch of earth, or to the greyness of the clouds and the chill of the

wind as these things press upon him and make desolate this place of his retreat. From both the generative warmth and the sorrowful wind a strange happiness will reach him if he retains his concentrated receptivity of mind; for the deep fountains of his memory will be stirred simply and solely by that passive attitude of his which has obliterated worry and care. Then will all manner of old, obscure feelings, evoked by both sun and wind, warmth and cold, earth and grass, air and rain, rise up in his mind. And he will remember certain street-corners where the evening light has fallen in particular ways. He will remember certain bridges where the rain-wet stones or the mosses have taken on a certain delicate sadness, or have pierced his heart ''with thoughts beyond the reaches of his soul.'' He will remember the tarry smells and the salty breaths of this or that harbour-mouth, passed carelessly enough at the time, but returning upon him now as of the very essence of his life. He will remember how he once came up the slope of a far-off hill, following some half-forgotten road; and there will come upon him vague memories of remote gates overgrown with elder-bushes and with tall nettles; memories of bare beech-trunks, God knows on what far uplands, of stranded barges in stagnant back-waters, of green sea-weed on lonely pier-posts, of glittering sun-paths, or moon-paths, on sea-waters or river-waters, of graveyards where the mounds of the dead were as drowsy under the long years as if the passing of time had been the passing of interminable flocks of sheep. Thus he will tell like beads the memories of his days and their long burden; while the unspeakable poetry of life will flood his being with a strange happiness.*

Certainly after that, nothing is left to be said of the happiness that nature may give us—the same nature

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*From *The Meaning in Culture,* by John Cowper Powys, used by permission of the publishers, W. W. Norton & Company, Inc.

that gave us the gift of life and the privilege, through a sensitiveness to beauty, of being a partner in all the beauty that is and all that will be. But so few people see it, or enter into their rightful and limitless heritage. And to that extent they are uneducated. Of course, every one *exclaims* about beauty. Every one says in his own way, "Ain't nature grand?" But the grandeur of nature is something you breathe but say nothing about. There is little you can say unless you are a poet or an artist and thus by divine right yourself a creator of beauty. I like immensely the story they tell at the Grand Cañon to show how its miraculous wonder affects different people. The preacher and the cowboy stood gazing out across the cañon for the first time. For a long time they were struck dumb. Finally, coming to themselves, the preacher said softly, "Oh, Lord, how wonderful are all thy works!" The cowboy, with *equal* reverence and *equal* softness laid off his hat, gently lifted his eyes and said, "Don't it beat hell?" Both were uttering the true speech of beauty.

Some people think they have seen the Grand Cañon in a day. You can see *it* but you can not see its moods. As Hamlin Garland said after living with it and in it for a long time, "the Cañon has a thousand moods." But so does the sky above us every day and every night. Yet few people see it or make it their daily and hourly companion, or know how to commune with it to gain consolation and courage. Ross Crane, the artist, tells me that few people ever notice the sunset or call it beautiful unless it is flaming red. I sometimes think it a pity that marvelous sunsets occur two or three hundred times a year. I am sure that if sunsets occurred only at some one place on the earth, as Niagara Falls or Lake Como, people would travel thousands of miles just to see one and would remember it as an event in their lives. And this is true of all beauty. It is so common that it becomes commonplace. Beauty is always and everywhere. But the man who has once felt its infinite stirrings, who has once understood that it is not something external for occasional enjoyment but as true an agency of life as food and water and air, will hunger and thirst for it as he does for the elements of life. He will be able to say with the Psalmist, that "it is the health of his countenance"; it will seem a natural part of his daily sustenance; it will be as the "everlasting arms" beneath him; and he will be able to say with consuming intensity and truthfulness, "As the hart panteth after the water brooks, so panteth my soul after thee."

It is not my wish, however, to deliver a panegyric upon beauty. I merely desire to point out that its cultivation is an essential part of education. Though it is always before us and we do not have to go to school to see it, a sense of beauty is an achievement; to possess it requires effort—a training of the habits, the emotions, the mental faculties.

For example, how few people really see and understand the beauty of Lincoln. That Abraham Lincoln was ugly is a national tradition. His homeliness is assumed and accepted as we accept the Constitution or the Declaration of Independence. Yet I have never heard artists talk of anything except Lincoln's personal beauty. The average person naturally thinks they are trying to be highbrow and superesthetic. Far from it; they have achieved a distinct perception of his extraordinary beauty. George Gray Bernard, the sculptor, told me that he spent five hours a day for one hundred and twenty-five days studying the Volk death-mask of Lincoln and that every day he discovered new beauty. The difficulty is that when we speak of human beauty nearly every one of us has in mind the soft rounded contour of the Greek ideals. When we think of the Greek conception of beauty, we think of spring days, of shouting laughing waters, and the gay dance of life. But when we gaze long upon the face and figure of Lincoln, we find ourselves thinking of lonely mountain fastnesses, of majestic summits and of the beauty of thunderstorms.

This shows us both the blindness of men's eyes and the infinite variety of beauty. Many years ago I heard a great artist lecture about a picture entitled *A Rainy Day in New York.* It seemed a picture of utter desolation—unrelieved, draggly, wet, cold, dripping depression. But to my amazement he talked of its beauty and, as he closed, he said: "You must remember that all days are beautiful days to the artist."

The memory of that remark has never left me. Thousands of times it has opened suddenly before me, in the very midst of life's irritations and worries, a new world of beauty lying right under my eyes, which, in my blindness, I had failed to see. It was Henry Ward Beecher who said John Ruskin had taught him to see the beauty of bad weather. Rain, snow, sleet, hail, fog, storm and, likewise, misfortune and hardship—if we but meet them with courage—bring out colors and harmonies in nature, and bring us human insights and beauties of friendship, which sunshine and good fortune never could have revealed.

Even death may have a supernal beauty. As Charles Frohman, the great dramatic producer, went down on the *Lusitania,* he said:

"Why be afraid? Death is the most beautiful thing in life."

You may never have thought of it, but nature herself has taught men to keep "their rendezvous with death" as a part of the joyous and beautiful dance of life. For man himself is the result of all that evolution has thought worth saving. Woman's love and man's bravery and the power to appreciate and become a partner in the great processes of life and nature have made man what he is—they all combine and culminate in the sensitiveness to all these processes, to all these human and divine mysteries and relationships which men call "the sense of beauty."

Beauty in its widest sense is inseparable from religion. In our childhood at least we used to hear people talk a great deal about the beauty of religion. No man can look inside himself and tell where beauty begins or religion ends. They are both the thing a man feels, the very speech he utters when he is closest to truth and to what he conceives of as being God. They are the objects, the essence, the summation of all education—the thing that gives life its highest values and meanings, and makes it worth while for men and women to make education the chief business of their lives.

As with any other value or achievement, the beauty a man gets out of life is the beauty he puts into it. Education should teach as an insistent and abiding lesson that a man gets out of life what he puts into it, but that owing to the creative nature of life itself, he gets it back a hundredfold. He sows the wind and reaps the whirlwind. He plants a seed and, owing to the kind of seed it is, he gathers either the sweet or bitter fruit from a great tree.

Phillips Brooks, America's greatest preacher, gave us a simple and most persuasive illustration of this great truth of life and education. It has been more than thirty years since I read it and I here am compelled to repeat and elaborate it from memory:

Let us take four of our fellow men on a summer afternoon out into a great field and watch their conduct. Sometimes a moment's conduct will reveal great areas of man's character—some biologists believe it may even reveal traits of his ancestors back for, it may be, a thousand years.

The first man stoops and picks up a stone by the pathway that flashes in the sunlight as though it were covered with jewels. He gathers the flowers and, likewise, the weeds from the field; he goes by the stream and gathers the rare and curious plants that line its banks; he picks up the curious stone out of the rushing waters; he captures the repulsive serpent that creeps beneath the grasses, and entraps the butterfly that dots the afternoon with its beauty. This man takes *all* the treasures out of the field—nature's poorest and proudest, her weakest and strongest, her humblest and most sublime.

The second man scoops up a handful of the soil and examines the elements of its fertility. He notes the drainage of the land, the direction of the water-courses; he studies what parts are fitted for woodland and what parts for pasture; he finds where grains will grow in the greatest variety and vigor, and where fruits will grow in the greatest beauty and abundance.

The third man is an adventurer. He goes across the field and we see him yonder climbing up the cliffs, and examining the richness of their mineral outcroppings. He studies the crevices in the rocks and the tilting of the strata; he goes into the cavern that pierces the heart of the mountain, and presently comes forth with his hands laden with its hidden minerals. This man, however, studies not their beauty—he studies their use. He stands by the waterfall and measures its height, its depth and breadth; and then he sits down and calculates in cold and accurate figures the waste of its power, as it plunges in reckless rage over the rocks.

But the fourth man, watch him! As this man goes about in the field, he hears nothing but the singing of the birds, the music of the winds "tumbling on the billows of the laughing hours"; he hears only the love song and the murmuring of the brook. He watches the clover blossoms nodding in mockery at the afternoon wind, and his heart beats in wild response to the beauty and wonder of the waterfall, tumbling in glory down the precipice.

Then come along by that field a year from this afternoon.

The first man says to you, "Come and see my great museum! I have gathered all the treasures out of the field, and to my museum of classified knowledge men can come for ever and study the laws of nature and learn of the laws that govern their own destinies."

The second man says, "Come and see my great barns! I have sown, cultivated and reaped and some of my sowing has brought forth ten and some fifty and some a hundredfold. Partake with me of the abundance of my store."

And the third man cries out, "Come and see my great mines! I have lifted up the strata of the hills and opened the crevices of the rocks. I have laid open the heart of the cavern and brought forth its hidden treasures. Ah," he says proudly, "I have harnessed the mighty waterfall, so that to-day the finger of a babe can turn all of its power to the uses of my fellow men. Come and rejoice with me at my success in bending nature to my will."

And the fourth man says gently: "Come and hear my beautiful poem, my splendid piece of music. I have put into it all the singing of the birds, the whispered secrets of the winds and the 'blue rushing' of the arrowy brook. I have woven into it the deep mystery of the fields and the glad magic of the skies; I have put into it the laughter of the clover blossoms and the tears of the rainbow that dwells all the day long in the mist of the waterfall; and I have put into it the wild notes of the great storm to make men strong in the never ending battle of progress and right."

Every man got out of the field precisely what he put into it and got it back with all of nature's exuberant usury. So it is with education and so it is with human life. If you put poetry and music into life you will get poetry and music back a hundredfold; if you put poverty into life, you will reap poverty and if you put wealth you will reap an ever increasing wealth; if you put hate into life you will reap hate and if you put love you will reap an ever-expanding love; and if you put beauty into life—a trained perception of its everlasting consolations, refinements and releases of the spirit—the education it gives you will fill all your days and years with the priceless intellectual and emotional rewards of beauty.

CHAPTER XXVII

He Lives a Great Religious Life

If science has done nothing more than to bring men speed, comfort, luxury, money and playthings, it is not worth the price we have paid for it.

Unless it has brought men a better religion, sounder morals and a richer humanism, then the old days of dogmatism, ignorance, superstition, hate, war, persecution and bloodshed, which have been the fruits of all the religions of the past, were better, I think, than the prospect which lies ahead.

For, if dogmatism becomes armed with the instruments of science, especially with its ease of communication and power of propaganda, then the days when woman's beauty and man's heroism were thrown into the lion's mouth for so-called conscience's sake will seem like good old days, indeed. Hell hath no fury like dogmatism and bigotry with science as their handmaiden.

This is precisely the situation which faces both science and social order throughout the world to-day. For science has given men its products and instruments, but it has not given them its religion, its ethics, and its humanism. It has given men its material life, but not its spiritual life; it has not taught the masses of men a new way to live.

Here, then, lies the practical danger. Science has mechanized all civilization. It has invented a world machine. And after it invented this world machine the business men and politicians ran away with it and thought they could manage it without the scientific spirit. A man in an airplane is not of necessity any more emancipated, sane, wise, tolerant or civilized than a man in an ox-cart. Science can not emancipate men unless they catch its spirit. When men take possession of its machines, chemicals, communication and transportation without its liberalizing spirit they exploit men and exploit life—they do not teach, nor enlighten, nor free the human spirit. They chain men to bigger and bigger machines beyond their power to understand or to control. They make new devices for war; they use propaganda to control opinion; they use the power of law and government and the courts and press to throttle free thought and free teaching. They build schools for their children with the aid of science and then gag the teachers within their walls. Dogmatism with the added power of scientific instruments and inventions is thus the most dangerous thing to common men that has ever entered the world.

For science has done three things. First, it has explored the workings of the universe and in doing so has given us the technical methods for finding the will of God and of serving Him. Second, it has given us a new and larger and more intelligent and at the same time more loving conception of God. Third, it has given us the technical methods for putting the will and ways of God into effect in our social, political, educational, and religious organizations, thus guaranteeing a richer and more fruitful life to all men. But if dogmatism controls these results of science and bends the instrumentalities of science to its own uses, then the day of hope and liberty for the masses of men is all over.

It seems to me that any liberal-minded Presbyterian or Methodist or Roman Catholic or Baptist or Jew can readily espouse the religion of science and find himself at home amid its newer and richer conceptions of righteousness, of service, of health-bringing, of worship, and of God. Thousands of them have done so. Some of these men belong to church denominations and some do not, but that matters little compared to the fact that their minds and their imaginations are free, and, without dogma or creed, their lives are one long passion for service, beauty and truth.

Touching upon these phases of modern thought and the religious significance of science, an old college friend of mine writes me that science seems to assume that it has found the goal of humanity and the solution of life. Some scientists in a moment of enthusiasm over a marvelous discovery may have said so, but science as such holds no such assumption. My friend first asks why Shakespeare is a greater poet than Goethe, and answers: "Precisely because he does not try to philosophize life, but leaves it as he found it, an insoluble mystery."

He continues:

> You remember the words of the old Saxon chief when the missionaries first appeared in Britain—how life is like a sparrow which suddenly flies in out of the darkness, lingers an instant in the light and warmth, and then disappears into the darkness; and this has always been the true Anglo-Saxon attitude when we have not tried to impose an alien and Semitic religion upon it. Science may explain all mysteries except the ultimate one—the meaning and purpose of life; but that it will never solve; and it behooves us to be modest and not to assume an attitude that implies the possibility of a solution. And as long as life is darkened by this uncertainty as to its ultimate goal all attempts at an amelioration of the conditions of life can arouse but a qualified enthusiasm.

Profound, beautiful and penetrating!

His pessimism is passionate and valiant and has the distinct merit of being honest, robust and stimulating.

I recommend it to some of my ultra-mechanistic friends who believe that life is a chemical formula—a little longer, perhaps, than diethylamidosulphobetanaptholbenzoate, but a formula of the same type—and that experience, whether esthetic, religious or intellectual, is merely the summation of mathematical data of which we shall ultimately be able to write the equation. But even should the mechanist turn out to be correct, I do not believe it would destroy the possibility of a lofty religious life of service and beauty for men.

However, I do not agree with my friend that science assumes that it has led us to reality or given us the solution of life in any definitive terms. The scientist does not know what life is nor why life is nor whither it is going. At this point mystic and mechanist, materialist and spiritualist, dogmatist and pragmatist are all in the same boat. Each one has faiths, hopes, intimations, but that is all. And out of these faiths, hopes and intimations he must somehow manage to live. But the scientist at least does not attempt to erect them into dogmas and creeds and to persecute other men who do not accept them. He tries to persuade men to his viewpoint, he argues for its truth with all his energy; but the moment he finds he is wrong, as Huxley said, "All the authority in the world is as nothing and the traditions of a thousand years sound like the mere hearsay of yesterday." His very errors teach him.

But we can not say with my friend that science will *never* solve the problem of life, because we do not know what science may yet reveal. The thing of primest import is the fact that the scientist, instead of looking to the past for his religion and his revelations of God, is always looking to the future and is prepared to follow wherever his intelligence may lead. And he finds that this new and open universe and this new and open life which science is daily offering men are filled with exalting, exciting and wholesome new religious values by which and for which to live.

After all, what is religion and what is science? These may be idle questions of course and it is, in a sense, dogmatic to seek to define them in a word or, indeed, to define them at all. Yet the mind is always seeking for working descriptions, and I think that in *The Dance of Life* Havelock Ellis has given us a working description of both religion and science. I agree with him that in their final analysis each of them is an art—simply different aspects of the one great art of life.

Religion, as I understand Ellis to say, "is the joyful organization of an emotional relationship to the world conceived as a whole," and science is "the organization of an intellectual relationship to the world we live in adequate to give us some degree of power over the world."

It would seem, therefore, that every man's religion, whether he be an orthodox religionist who is interested chiefly in the riddles of theology or a scientist who is interested chiefly in the realities of life, is the sum total of his emotional attitudes toward the universe in which he *thinks* he lives; and science is man's intellectual penetration into, his mental understanding of, the real universe in which he *actually* does live. And if this be true, the more man's mind can penetrate into the real universe through science, the more he can win its forces to friendly intercourse with his own life, the deeper it seems to me will be his religious reverence for a universe he can understand instead of a universe he is afraid of, in the presence of a God, if you please, of law and order whom he can trust instead of a god of caprice whom he can not. And, defined in this way, there is and can be no antagonism between religion and science.

If we accept these descriptions for the moment, the attitude of science toward religion becomes self-evident. For when men knew nothing of nature (that is, had not science), their emotional attitude toward the universe was almost wholly that of fear. And this attitude was reflected in their culture, in their ethics, in their economics, and in their politics. Men sought to win the universe—which is another way of saying their conception of God—to friendliness by pleadings, sacrifices and mystical rites. But the men of science brought a new technology of religion into the world. They sought to win the universe—that is, *their* conception of God—to friendliness by discovering its laws and learning how to cooperate with them. Without science men have lived exalted lives, but their religion has been an effort to placate God. With science religion is an effort to become a co-worker with God. This change means not only new religious values and objectives and new modes of worship but also new conceptions of righteousness.

This and this alone is the *raison d'être* for any effort to state even the barest outline of the religion of a scientist. And a religion which is the outcome of the scientific view of the world is the only religion, it seems to me, that an educated man to-day can possibly espouse. The considerations advanced here are meant to be of course only the merest suggestion. I hope, however, that they may for some people point the way to a more ''joyful organization of an emotional relationship to the world conceived as a whole,'' which Ellis, I think rightly, says is religion, but made much more joyful and fruitful *because* it is organized in the light of this new ''intellectual relationship to the world we live in,'' which is science.

My friend believes we should not try to improve the conditions of life because we do not know what life means or what it may ultimately come to. The mystic believes we should not try to improve this world because there is another coming where conditions will be ameliorated without our efforts. The suffering, starving, filthy millions of India and China are ample witnesses to the practical workings of this doctrine. But the scientist, while he knows no more than either about what lies ahead, believes that *now* is the best chance he will ever have, possibly the only chance, to learn to live. He believes—and this belief is the great informing passion of his religion—that now is the time to make this world livable, clean and decent, to adjust its social forces, reduce its evils, and bring gaiety and health and sunshine and hope and freedom into the every-day lives of common people. And no one can deny that science has placed in our power the possibility of making life happy, fruitful, significant, and adventurous for more people than has ever been possible in the world's history. And to bring this rich fruition to common men and women in larger spiritual meanings for their lives—this to the present-day scientist is certainly religion enough.

The discoveries of science are as nothing compared with the spirit and the kind of life it has brought into the world. And we have made almost no effort to bring its spirit to anybody. Blazing, blaring, booming from every housetop are advertisements of the products of science—but no mention of its gentleness, its tolerance, its gaiety, its beauty, its ethical opportunities, its religious possibilities, its new and intelligible conceptions of God. No wonder that our youth are both morally and religiously at sea!

In fact the intellectual and spiritual situation of the modern youth is a close parallel to that of the masses during the Italian Renaissance. For the outstanding feature of the Renaissance was that it was conducted almost wholly in the Greek language which the masses could not understand. Thus a great period in the intellectual life of mankind was passing but the common people did not know what was going on. True, they saw its works of art, its paintings, sculpture and architecture and what literature was written in the Italian language; they also saw the wild orgies and the luxurious immoralities of the aristocratic classes; but the true inwardness of this, in many ways the gayest and happiest of all human springtimes, was utterly unknown to the masses of men.

And this has always been the case in every great period of intellectual and spiritual activity, the masses have not been taken into the confidence of the leaders. Of course in ages past, this has been largely because of the wide social divisions of the classes and masses and also because there was no system of popular education. As a consequence in every period when it seemed a new door was about to open for all mankind to enter the Elysian fields of a new intellectual freedom, the masses under the leadership of the Fundamentalists who did not understand what was going on have brought these periods of promise and glory to a disgraceful close. This happened to the Renaissance under the leadership of Savonarola in the south and Luther in the north—in spite of the heroic efforts of Erasmus and Thomas More—and as a result the age of science in the midst of which we are living was delayed for at least three centuries.

Now the question is can we avoid these old heartbreaking tragedies? I don't know. I think we can. I think we can if we see clearly that we are conducting another Renaissance in a language which common men do not understand but which they could understand and gladly enter into, if the scientist would but take the trouble to teach them his secrets, share with them his inspirations, bring them his kind of life, and teach them how to live it; show them what values, what religious depths, what moral heights, what social, economic, political happiness and efficiency this spirit and kind of life offer, not for a few but for earnest men everywhere.

For never in all history did men have so much to live for, never did they have so much to live in, never did they have so much to live with—and yet, never did they seem to have so little to live by. We live in a world· to-day where the very air is quivering with human speech, where the skies are actually vibrating with music and song, where every thought we think "goes shivering to the stars." Literally and actually the time has come when "deep calleth unto deep" and when "day unto day uttereth speech and night unto night showeth knowledge."

And yet, with the winds of heaven laden with music and knowledge, never did men's lives seem so barren of true intellectual exaltation nor their hearts so far from authentic spiritual anchorage. People are flocking by the millions to bearded mystics, enshrouded occultists, bob-haired and rouged clairvoyants, dark-room mediums, Oriental voodooists, "applied psychologists," character analysts, pseudo-psychoanalyzers, hocus-pocus humbuggers, and in-tune-with-the-infinite bunk-shooters, and are trying to get God out of ouija boards. And I think it is largely just because, so far, the spirit of science has not been given to men but only its instruments and products, that we see everything from pink pills to spirit photographs being sought in order to give men that noble calm and that inner assurance which the faiths of our fathers, whether right or wrong, gave them with which to face the facts of life and meet the mystery of death.

The question is constantly asked especially by serious-minded high-school and college students, would these new faiths and works of science do away with the old mystical life of man? No, they will only enrich it. The old mystical life of man can not be done away with. We hear that science will destroy men's religion. You can not destroy men's religion unless you destroy men's natures. For man is ''incurably religious.'' As Plato said, ''whether a man wants to be a philosopher or does not want to be a philosopher, he has to be a philosopher.'' And whether a man wants to be religious or does not want to be religious, he has to be religious, because the universe—its mysteries, its allurements, its beckonings—will never let his human heart rest with its longing for an answer.

What the exiled Spanish philosopher, Unamuno, calls ''man's homesickness for eternity'' will always remain. That infinity which Victor Hugo said every man carries within him he will always carry within him. There will always be that same immortal longing for this infinity within to touch and to commune with the greater infinity without. This to the scientist is religion. Science has enlarged enormously both the infinity within man and the infinity without. It has thus given him for a religion of fear a religion of courage; for a religion of forbidding mystery a religion of mysterious and alluring light; for a religion of vengeance a religion of tenderness, of tolerance, of sweetness and freedom; a religion, the objective of which is the understanding of nature and human nature. This, and this alone, is the understanding and the service of God.

And unless some such religion does lay its hold upon the daily lives of men, unless this new sort of political and religious liberalism shall anoint all parties to the social conflict, unless this new religious life shall humanize industry, economics, and politics, and shall become the living gospel of the nations, then, so far as I can see, the only thing left for the bravest and most hopeful man is to exclaim, "After us, the Deluge!"

But even should the Deluge come—and it will come unless science and the new liberalism can dam back its massive flood—we have at least lived to see that science offers men a religion as filled with mystical beauty as any which men have ever imagined, and also with two definite new objectives and the technique for bringing them to pass: first, an amelioration of the conditions of life greater than was the ancient's dream of paradise; and second, the actual creation, through the new chemistry and biology, of greater and better human beings, a race endowed with higher and more effective organic capacities for happiness and achievement than we ourselves possess—the thing we know now as eugenics. Can religion have any higher objective than that of the creation of a future race of men healthier, saner, more virtuous and intelligent in their inborn capacities than are we?

If finally, then, we should try to think and imagine what the religious life of an educated man in this age of the world might be—a man, that is, who has really entered into the three great cultural heritages with which we began this discussion of education,—the Greek heritage of science and fearless joy in the world; the Roman heritage of utility, power and social organization; the Christian heritage of sympathy and charity,—it seems to me that to become an intelligent partner in this great evolutionary enterprise of creating a better and happier human race is education, poetry, ethics, religion, enough to satisfy all the organic trends that flesh is heir to. It is far and away the most difficult task the mind and heart of man has ever embarked upon or ever will. But the fact that science has shown that it lies within the realm of the possible, and that the perfectability of man is the highest dream of his own spirit—a spirit that is itself the outcome of evolution—makes it at once, of necessity, the most insistent religious and ethical duty and privilege that is open to mortality.

After all the most significant fact in the life of the modern educated man is that through the science that his own intelligence has developed, he can at last become a co-worker—an intelligent co-worker—in promoting his own evolution. Indeed, if the first lowly human creature could have had our science to promote his own progress upward, it surely seems he would have esteemed it his highest religious opportunity and duty to lay hold of that science for the purpose of making his descendants better beings—eradicating their defects and increasing their virtues. That duty and opportunity with all its infinite ethical and religious implications does lie before us; science and science alone has given it into our hands. Science is thus the handmaiden, the forerunner, the dynamic of the greatest religious life that is possible to the heart and mind and body of man.

This religious life with all its accompaniments of poetry and beauty, of courage and sanity, of service and friendliness can only be achieved through education. It is a process as long as life, as deep as human nature, as wide as the race itself. In the last analysis, it would seem an immortal pity if man could not, in the development and improvement of his own being, keep pace with his own thoughts, his own discoveries about his nature, his own dreams as to what that nature might become. To enter then as an intelligent co-worker upon this great task of his own evolution, this task of bettering his own organic abilities, emotional possibilities and capacities for happiness is the final ethical and religious offering of the universe to a being who has evolved the power to educate himself; and, to make this task the objective of his religion, the motivation of his morals, the passion of his art, and the dynamic of his social purposes would seem, by the sheer logic of a developmental world, to be the last and greatest mark of an educated man.

THE END

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